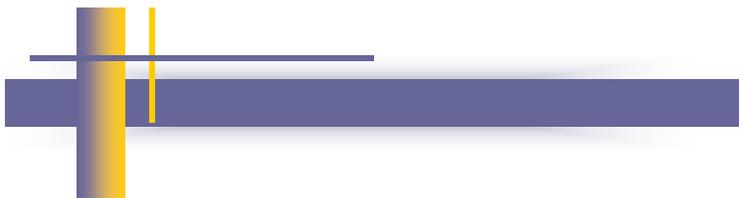


State of Missouri
Department of
Social Services
Division of Medical
Services

E V A L U A T I O N
O F T H E
M I S S O U R I
S E C T I O N 1 1 1 5
W A I V E R

Review Period: September 1, 2005 – August 31, 2006



*Submitted July 26, 2007 by:
Alicia Smith & Associates, LLC
900 2nd Street, NE
Ste. 221
Washington, DC 20002*

TABLE OF CONTENTS

Introduction and Scope of the Evaluation.....	1
Data Sources and Approach.....	6
Research Question 1.....	9
Research Question 2.....	21
Research Question 3.....	44
Research Question 4.....	54
Research Question 5.....	61
Research Question 6.....	75
Research Question 7.....	82
References.....	94

Additional Data Tables

Table I	Health Insurance Coverage, Children Under Age 18
Table II	Health Insurance Coverage, (Non-Elderly) Adults
Table III	Health Insurance Coverage, Children and (Non-Elderly) Adults
Table IVa-1	Waiver Enrollment by Area/Region – Children (September 1, 2005 – August 31, 2006)
Table IVa-2	Waiver Enrollment by Area/Region – Children (September 1, 2004 – August 31, 2005)
Table IVa-3	Waiver Enrollment by Area/Region – Children (September 1, 2003 – August 31, 2004)
Table IVa-4	Waiver Enrollment by Area/Region – Children (September 1, 2002 – August 31, 2003)
Table IVb	Waiver Enrollment by Area/Region – Adults (September 1, 2005 – August 31, 2006)

Appendices

Appendix I: Data Requests
Appendix II: Data for Research Question 2
Appendix III: DMH Wraparound Services
Appendix IV: Interview Questionnaire for Parents and Providers regarding NEMT Services

INTRODUCTION AND SCOPE OF THE EVALUATION

This report constitutes the eighth evaluation of the Missouri Medicaid Section 1115 Healthcare Demonstration Waiver program (1115 Waiver) and covers the period from September 1, 2005 through August 31, 2006. The 1115 Waiver, known as Managed Care Plus (MC+)¹, expanded Medicaid eligibility to uninsured children, adults leaving welfare for work, uninsured custodial parents, uninsured non-custodial parents, and uninsured women losing their Medicaid eligibility 60 days after the birth of their child. Implemented on September 1, 1998², the original goals of the 1115 Waiver were to:

- reduce the number of people in Missouri without health insurance coverage;
- increase the number of children, youth, and families in Missouri who have medical insurance coverage;
- improve the health of Missouri's medically uninsured population, and
- demonstrate that not providing non-emergency medical transportation (NEMT) and requiring cost sharing will not negatively impact access to medical coverage or an individual's health.

Over the last several years, changes made to the 1115 Waiver have left coverage only to children and uninsured women losing their Medicaid eligibility 60 days after the birth of their child. In addition, cost sharing for children has increased over the years with premium responsibility being applied to more families. Notably, while premiums were only applied to families in the highest Waiver expansion/SCHIP income tier (226 percent to 300 percent of federal poverty level (FPL)), beginning with this evaluation period, families with incomes equal to or greater than 151 percent of FPL are responsible for premium payments.

This evaluation is being completed in accordance with the requirements of Missouri Senate Bill 632 and the Centers for Medicare & Medicaid Services (CMS). This report covers the evaluation period September 1, 2005 through August 31, 2006, and addresses the following questions:

¹ In other contexts and publications, "MC+" refers variously to the Medicaid-eligible children, 1115 Waiver expansion-eligible children, and the managed care program that serves both populations. In this report, we distinguish between the two eligibility groups (i.e., Medicaid and the 1115 Waiver Expansion) and between the two service delivery systems (i.e., managed care and fee-for-service). In addition, we avoid using the "MC+" label when describing these different components of the publicly-funded medical assistance programs in Missouri for children and families.

² Service delivery to children began September 1, 1998. Service delivery for adults began February 1, 1999.

- **RESEARCH QUESTION 1:** Has the 1115 Waiver expansion provided health insurance coverage to children and families who were previously uninsured?
- **RESEARCH QUESTION 2:** Has the 1115 Waiver expansion improved the health of Missouri children and families?
- **RESEARCH QUESTION 3:** What is the impact of the 1115 Waiver on providing a comprehensive array of community based wraparound services for Seriously Emotionally Disturbed Children (SED) and children affected by substance abuse?
- **RESEARCH QUESTION 4:** What is the effect of the 1115 Waiver on the number of children covered by private insurers? Does the 1115 Waiver expansion to cover children with a gross family income greater than 185 percent FPL have any negative effect on these numbers?

This report also examines the “Health Care for the Indigent of St. Louis” amendment (The “St. Louis Amendment”) to the 1115 Waiver. The St. Louis Amendment authorizes the use of a limited portion of Disproportionate Share Hospital (DHS) expenditures to be used for two purposes: (1) to transition Connect Care, a public-private hospital in St. Louis, from an inpatient facility to an outpatient facility; and (2) to enable the St. Louis region to transition its “safety net” system of care for the medically indigent to a viable, self-sustaining model. The related research question is:

- **RESEARCH QUESTION 5:** Has the 1115 Waiver Amendment improved the health of the indigent of St. Louis City?

Finally, this evaluation also addresses two questions not addressed in the past several evaluations:

- **RESEARCH QUESTION 6:** Have cost-sharing requirements for higher income populations in the 1115 Waiver resulted in any negative impacts as measured by individual health and access to health care?

- **RESEARCH QUESTION 7:** Has the lack of non-emergency medical transportation (NEMT) had any negative impact as measured by individual health and access to health care?

Throughout this evaluation, we use the following terminology:

- **Medicaid** - refers to the Title XIX state plan Medicaid population (except that CPS data does not have a category for the SCHIP program. As such those individuals are counted in the Medicaid counts. Thus, in this evaluation, when we are discussing and analyzing CPS data, the term **Medicaid** refers to the broader category of Medicaid and SCHIP); and
- **Expansion** or **Waiver expansion** or **SCHIP** - refers to adults and targeted low-income children covered under the 1115 Waiver.

During this evaluation we found that the 1115 Waiver:

Increased Rates of Insured Missourians. During the seven-year period following the 1115 Waiver's implementation the average rate of uninsured is less than it was during the seven-year period preceding its implementation. Moreover, since the implementation of the 1115 Waiver, rates of uninsured persons in Missouri have been lower than national rates for both children and adults. However, this year's evaluation shows actual declines in the number of children enrolled in the Waiver, for both the Waiver Expansion and the Medicaid populations.

Improved Health of Missourians. Proxy indicators such as utilization of preventive and wellness services suggest that Waiver expansion children are receiving these services. Of children age six and older and in MC+ managed care, those in the 1115 Waiver expansion appear to have higher rates of utilization than those in Medicaid. In contrast, 1115 Waiver expansion children age six and older in fee-for-service have lower or roughly equivalent utilization relative to those in Medicaid. The latter is true for all children under age six (regardless of service delivery system). Additionally, the avoidable hospitalization rates among children in the 1115 Waiver expansion have declined steadily since 2000.

Provided Wraparound Services to Children and Youth with Serious Emotional Disturbance (SED). Utilization data show that children with SED are receiving wraparound services, particularly case management and family assistance services. Interestingly, the case management use rates (services per child) are much higher for children in fee-for service than for those in MC+ managed care. Children in MC+ managed care, however, have higher use rates for family assistance and family support services. It is unclear whether these findings are attributable to the service delivery system or geography (because MC+ managed care is concentrated in relatively more urban areas of Missouri).

Had a Minimal Crowd-Out Effect. In this evaluation as well as in earlier evaluations, based on national studies and analysis of data, there was no conclusive evidence of crowd-out found.

Supported Access to Services by the Indigent in St. Louis. Relative to the 1990's and the implementation of ConnectCare, St. Louis is less populated and more economically disadvantaged. Even so, the rates of emergency room utilization among self-pay residents of St. Louis City and County show a consistent, downward trend between 1994 and 2005. In contrast, the rates of preventable hospitalizations for this population have been increasing since 2000. To the extent that ConnectCare can continue to reduce the number of uninsured without access to care – and arrest the growth in avoidable hospitalizations among this population – it will make a lasting contribution to the physical health of St. Louis residents.

May Not Have Had a Negative Impact on Individual Health and Access to Care Due to Cost-Sharing Requirements. Enrollment reports do show that the number of Waiver expansion children enrolled has decreased. However, due to the fact that (except for a small percentage of children) there is no barrier to enrolling at the time when health care services are needed, we are unable to state conclusively that cost-sharing has had a negative effect on health and access to care.

Provided Access to Health Services Despite Absence of NEMT Coverage. The relatively low levels of NEMT utilization among Medicaid enrollees suggests that the lack of NEMT coverage may not be a substantial barrier to care for the Waiver expansion

enrollees. Conversely, the provision of NEMT services would not likely result in high utilization among the Waiver expansion population.

DATA SOURCES AND APPROACH

Our evaluation relies on the use of previously aggregated, readily available data supplied by the State of Missouri and obtained from other sources. A description of the major data sources and their uses is provided below.

Dataset/Report Name	Description
Current Population Survey/Annual Demographic Supplement – US Bureau of the Census	<p>The Current Population Survey (CPS) is a monthly survey conducted by the Bureau of the Census for the Bureau of Labor Statistics. In March, a more comprehensive survey is conducted, which is referred to as the Annual Demographic Supplement (ADS). The CPS ADS provides national and statewide estimates of rates of insurance by type of coverage. Additional information is available at http://www.census.gov/cps/. Data from the CPS ADS were used to respond to Research Questions 1 and 4.</p>
Health Status Indicator Rates – Missouri Department of Health and Senior Services, Community Health Information Management and Epidemiology (CHIME)	<p>The Missouri Department of Health and Senior Services, CHIME unit provided data on several health status indicators for children, including avoidable hospitalizations, emergency department visits, asthma emergency department visits, and asthma hospitalizations. These data were used for the purpose of responding to Research Question 2.</p>
Missouri Information for Community Assessment – Missouri Department of Health and Senior Services.	<p>The Missouri Information for Community Assessment (MICA) is a web-based interface that permits users to manipulate demographic and population data about Missouri residents from a variety of data sources. In most instances, data is available at the county-level. Additional information is available at http://www.dhss.mo.gov/MICA/index.html. Data from MICA (i.e., MICA Emergency Room, MICA Inpatient Hospitalization, and MICA Preventable Hospitalization data) were used to respond to Research Questions 2, 5</p>

Dataset/Report Name	Description
	and 7. The source for these data is listed as Department of Health and Senior Services.
Monthly Management Report – Department of Social Services	The monthly management report provides point-in-time enrollment by month. These monthly reports were used to examine enrollment activity by eligibility group for the purpose of responding to Research Questions 1 and 6.
American Community Survey – US Bureau of the Census	The American Community Survey (ACS) is a relatively new annual survey used by the Census Bureau to project demographic changes in U.S. cities and states. As part of the ACS effort, the Census Bureau surveys three million households nationwide each year. Additional information is available at http://www.census.gov/acs/www/index.html . Data from the ACS were used to respond to Research Questions 5 and 7.
Census 2000 – US Bureau of the Census	The decennial Census collects extensive population and detailed demographic data. By law, the Census collects data using the Short Form from 100% of households; it also collects more extensive demographic data using its longer form, which it distributes to one-in-six households nationally. Additional information is available at http://www.census.gov/main/www/cen2000.html . Data from the Census 2000 were used to respond to Research Questions 5 and 7.
Population Estimates Program – US Bureau of the Census	Between the decennial censuses, the US Census Bureau develops city-, county-, and state-level population estimates. The Census Bureau bases these estimates on births, deaths, and migration data from a variety of data sources and surveys. Additional information is available at http://www.census.gov/popest/estimates.php . Data from the Population Estimates Program were used to respond to Research Question 5.

Dataset/Report Name	Description
Small Area Health Insurance Estimates – US Bureau of the Census	The Small Area Health Insurance Estimates (SAHIE) are developed from the Census Bureau’s population models. The models generate estimates of both adults and children who have and who lack health insurance coverage. Additional information about SAHIE is available at http://www.census.gov/hhes/www/sahie/index.html . Data from SAHIE were used to respond to Research Question 5.
Multiple Data Requests – Division of Medical Services, Department of Social Services and the Department of Mental Health	These data requests are detailed in Appendix I. The data associated with these requests was used in our response to Research Questions 2, 3 and 7.

In addition to the aforementioned data sources, we also utilized journal articles and health publications produced by the federal government and national health policy researchers.

RESEARCH QUESTION 1: HAS THE 1115 WAIVER EXPANSION PROVIDED HEALTH INSURANCE COVERAGE TO CHILDREN AND FAMILIES WHO WERE PREVIOUSLY UNINSURED?

For the past several years, the rate of uninsured in Missouri has been hovering around 13.5 percent. As would be expected there have been some fluctuations in this rate (in 2003 the rate was 12.8, in 2004 it was 14.3 and in 2005 it was 13.8), but every year the rates are consistently lower than the national rates which have been more than 17 percent. When broken down by state, Missouri's rate is the 15th lowest.³

More specifically, as it relates to the 1115 Waiver's impact on the rate of uninsured, the average rate of uninsured during the seven-year period since the 1115 Waiver's implementation (1999-2005)—12.1 percent—is lower than during the seven-year period prior to the 1115 Waiver's implementation (1992-1998) when the average rate of uninsured was 14.7 percent.⁴ This lower average uninsured rate is a laudable achievement for Missouri, particularly in light of policy changes that reduced the original coverage levels available under the Waiver and the start of an economic downturn in 2001.

UNINSURED CHILDREN

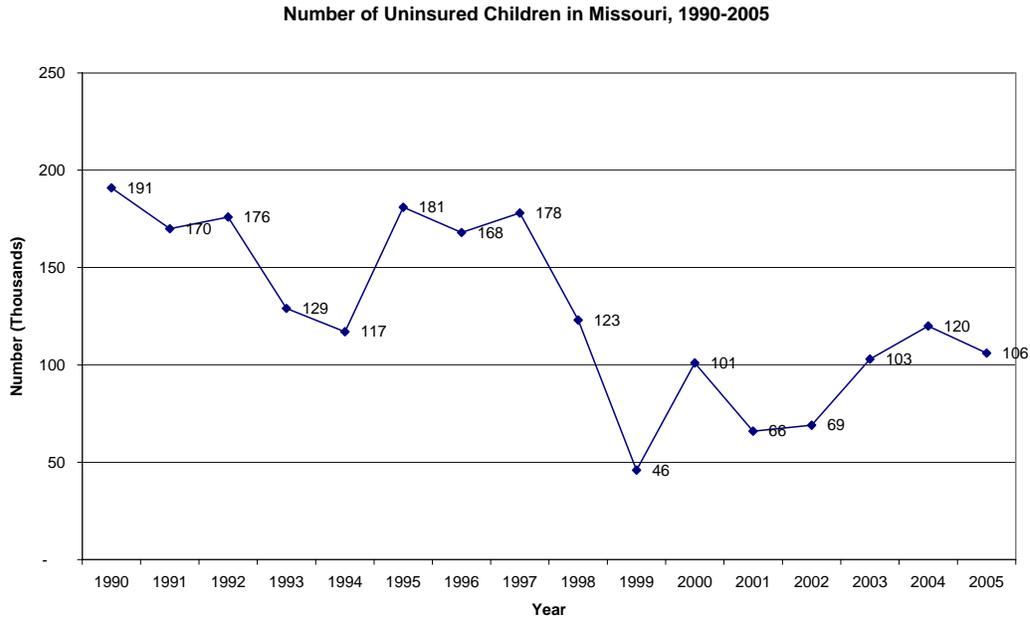
The rate of uninsured children in Missouri has also fluctuated some over the past three years—the 2005 rate of 7.6 percent is lower than the 2004 rate of 8.5 percent but still greater than the 2003 rate of 7.3 percent—but it continues to be about one-third less than the national average of 11.2 percent (figures 1 and 2). In fact, had Missouri's rate been equal to the national average, there would have been an additional 50,000 uninsured children in the state.⁵

³ U.S. Census Bureau, "Historical Health Insurance Tables, Table HI-6. Health Insurance Coverage by State – People under 65: 1987 to 2005." <http://www.census.gov/hhes/hlthins/historic/hihist6.html>

⁴ U.S. Census Bureau, Table HI-6.

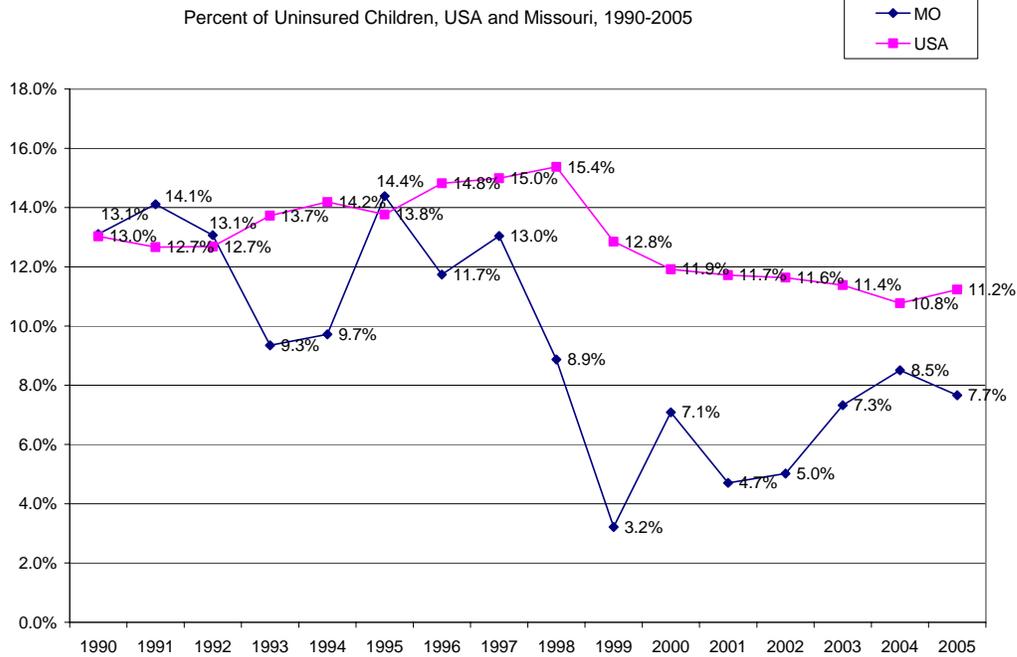
⁵ AS&A calculation based on data from: U.S. Census Bureau, "Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State – People under 18: 1987 to 2005." Available at: <http://www.census.gov/hhes/hlthins/historic/hihist5.html>; and U.S. Census Bureau, Table HI-6.

Figure 1



Source: U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1990 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist5.html>.

Figure 2



Source: U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1990 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist5.html>.

Taking a longer-term prospective, it is clear that during the first years of this century the state has made great strides in reducing the number of uninsured children. Specifically, the average rate during the seven years prior to full implementation of the 1115 Waiver (1992-1998) is nearly twice as high—11.5 percent—as the average rate during the seven year period since implementation of the 1115 Waiver (1999-2005)—6.2 percent.⁶ This lower average rate has likely been due, in part to the 1115 Waiver, which has provided insurance coverage to children who were either previously uninsured or had lost other coverage and would be uninsured in the absence of the 1115 Waiver.

INSURED CHILDREN

Employer-Sponsored Insurance (ESI)

Among those children who do have insurance, there has been a re-distribution over the past seven to eight years by type of coverage both in Missouri and in the nation as a whole. As discussed in previous evaluations, there has been a decline in ESI. Although the rate of adults with ESI increased slightly in Missouri between 2004 and 2005, the rate for children with ESI decreased for the fourth year in a row. In fact, the data suggest that, relative to the other individual states, this decline has been particularly dramatic in Missouri. Notably, in 2004, 62.9 percent of children in Missouri had ESI compared to 60.5 percent in 2005—a 4.0 percent decrease. Nationally, the rate was 60.8 in 2004 and 60.5 in 2005—translating into a decrease of less than 1 percent. When examined over a longer period—using 2000 when the percentage of children with ESI peaked nationally and 2001 when it peaked in Missouri—it is clear that the loss of ESI has been particularly large in Missouri. The rate in Missouri in 2001 was 71.4 percent while the national peak rate (in 2000) was 65.6 percent, in terms of percent decrease, this represents a decrease of 15.3 percent in four years in Missouri compared with a decrease of 7.8 percent in five years nationally.⁷

Although new jobs are being created and the unemployment rate both nationally and in Missouri decreased between 2005 and 2006, the declining rate of ESI has continued. This decline is likely due to several factors:

- A loss of jobs with benefits. According to a national survey, since 2000 the percentage of firms offering ESI has dropped from 69 percent to 61 percent.⁸ Declines in ESI

⁶ U.S. Census Bureau, Table HI-5.

⁷ U.S. Census Bureau, Table HI-5.

⁸ The Kaiser Family Foundation and Health Research and Educational Trust (HRET), “Employer Health Benefits 2006 Annual Survey,” (2006), <http://www.kff.org/insurance/7527/index.cfm>.

coverage rates are often tied to: (1) shifts in employment from large to small firms, (2) shifts from industries more likely to provide ESI to industries less likely to provide ESI (high-coverage industries include mining, manufacturing, utilities, finance/insurance/real estate, education, and public administration; low-coverage industries include agriculture, construction, transportation, wholesale/retail, trade, information/communication, professional health and social services, and art/entertainment), and (3) shifts from full-time to part-time work (only 28 percent of firms that offer ESI offer it to part-time workers).⁹ Certainly in Missouri these changes are occurring. For example, in January 2000, 370,200 people were working in jobs classified as manufacturing and in January 2006 only 300,800 were. Conversely, the number of people working in construction jobs increased from 139,200 to 148,400 during the same time period.¹⁰

- Increases in the cost of ESI to employers. According to the same national survey referenced above, the cost of ESI has increased, particularly relative to increases in workers' earnings. As a percent of total premiums paid, the proportion for which the employee is responsible has remained relatively constant at 16 percent for single coverage and 27 percent for family coverage. However, in terms of dollar amounts the employee must pay there have been large increases: from an average of \$27 per month in 2000 to \$52 per month in 2006 for single coverage and from \$129 to \$248 for family coverage.¹¹ In Missouri (and nationally), these increases in costs are occurring concurrent with a decline in median income (a slight increase nationally) and little change in the poverty rate (both in Missouri and nationally).¹² This suggests that ESI, when offered, is becoming less affordable for many people, particularly those with lower incomes.

Medicaid

As it relates to Medicaid enrollment, between 2000 and 2004 the number and percent of children in both Missouri and the nation have increased as the number of children with ESI decreased. However, during the past year, in both Missouri and the United States there was a

⁹ Elise Gould, "Health Insurance Eroding for Working Families: Employer-Provided Coverage Declines for Fifth Consecutive Year," *Economic Policy Institute Briefing Paper #175* (September 2006), <http://www.epinet.org/briefingpapers/bp175>; John Holahan & Allison Cook, "Changes in Health Insurance Coverage During the Economic Downturn: 2002-2004," *Health Affairs – Web Exclusive*. (November 2005), www.healthaffairs.org; Kaiser Family Foundation and HRET.

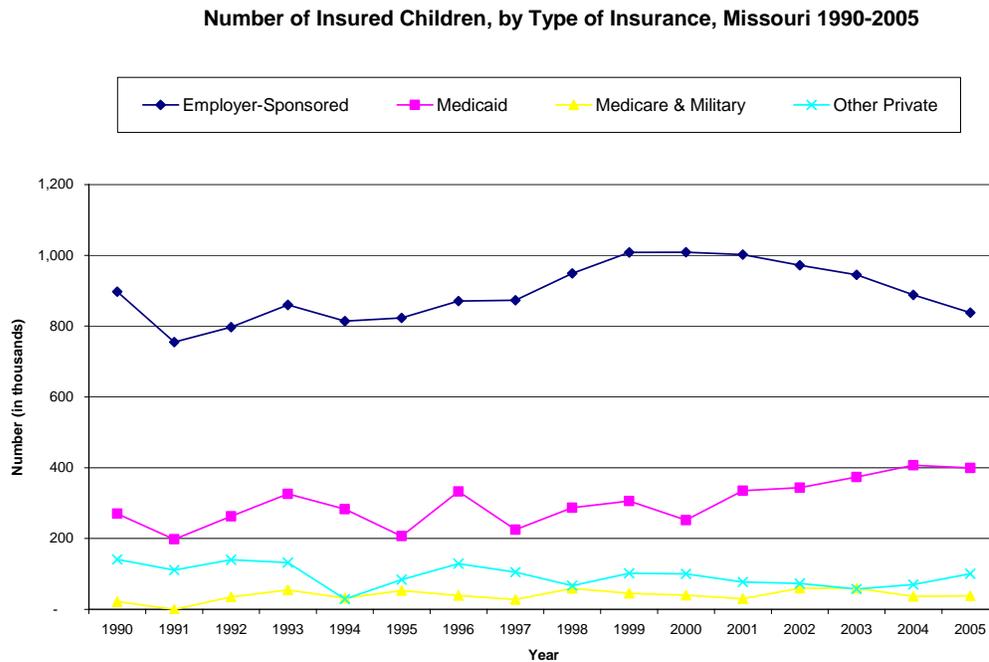
¹⁰ U.S. Department of Labor, Bureau of Labor Statistics, "State and Area Employment, Hours and Earnings," <http://www.data.bls.gov/lcgi-bin/surveymost>.

¹¹ Kaiser Family Foundation and HRET.

¹² U.S. Census Bureau, "Income 2005 – Two-Year Average Median Household Income by State: 2001-2005," <http://www.census.gov/hhs/www/income/income05/statemhi2.html>

slight decline in the number of children covered by Medicaid. Despite, this decline, in Missouri, Medicaid enrollment was still higher than it was in 2003 (figure 3).

Figure 3



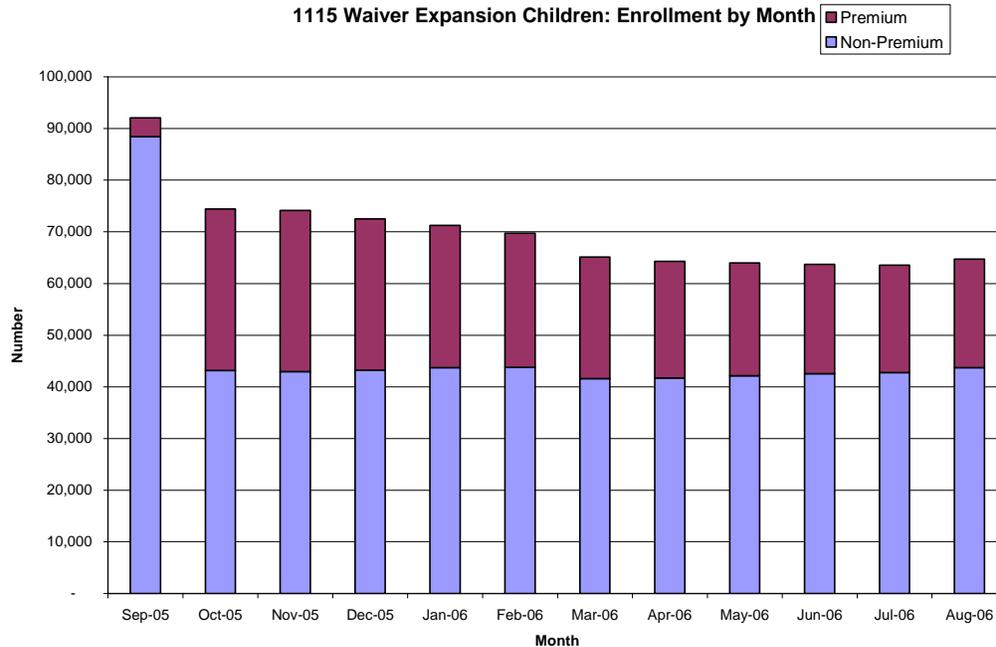
Source: U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1990 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist5.html>.

These data suggest that, during the past several years, Medicaid has provided health coverage to children who were either previously uninsured or had lost employer-sponsored coverage. However, the most recent data indicate there might be a slowing of recent Medicaid growth trends and that the number of Medicaid enrollees may even begin to decline. Data from the Department of Social Services (which is more current than the CPS ASEC data above and is discussed in greater detail below) also suggest this is occurring during this Waiver evaluation period (September 1, 2005 through August 31, 2006).

Enrollment in the 1115 Waiver¹³

During this evaluation period, for the first time since the Waiver's implementation, the number of Waiver expansion children enrolled has declined (figure 4).

Figure 4



Source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2005 - August 2006.

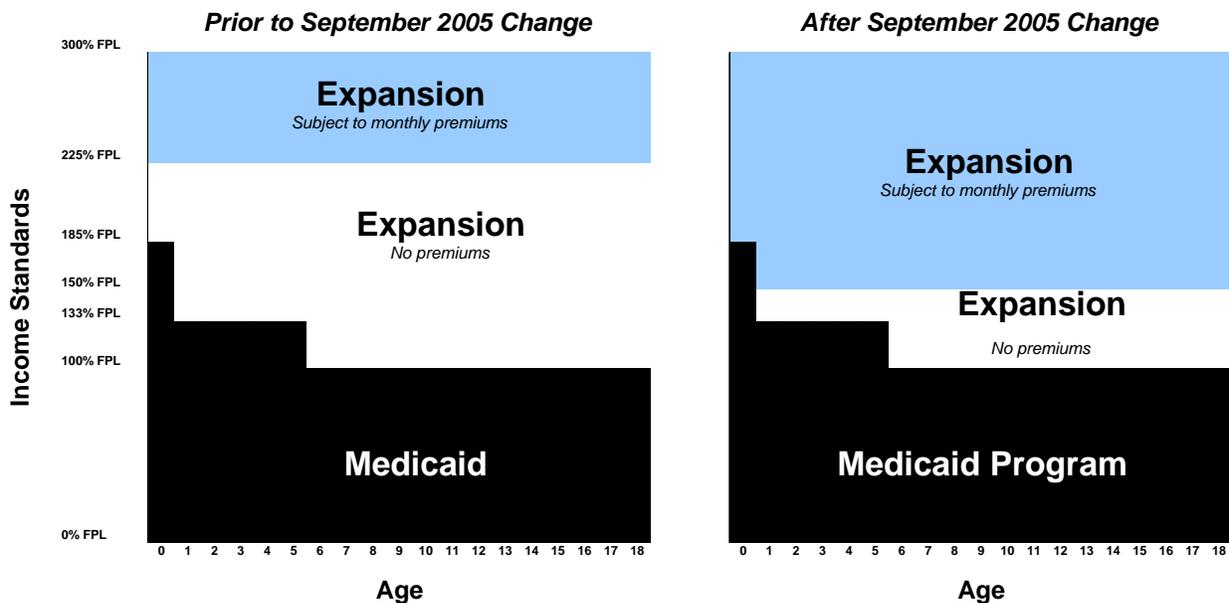
Much of the decline may be due to the following program changes implemented in September, 2005:

- 1) The FPL threshold for premium payment was lowered from 226 percent of FPL to 151 percent of FPL (see figure 5 below). Although the required premiums are not high—1 percent, 3 percent or 5 percent of the FPL, depending on the family's income—it is possible that the burden was too great and some families elected not to enroll.

¹³ It is important to note that these numbers differ from those reported in figures 1, 2 and 3 and discussed above. This is because they are from different sources and are collected by different means. The numbers reported in figure 3 are from the Current Population Survey which is conducted once per year by the U.S. Census Bureau, while those reported here are monthly enrollment numbers reported by the state. In a May 2003 paper entitled "How Many People Lack Health Insurance and For How Long?" the Congressional Budget Office found that the number of people who report that they have Medicaid coverage in population surveys is smaller than the number indicated by the program's administrative data—one estimate was that survey undercount is between 12 and 15 percent. The Medicaid enrollment numbers in figure 3 should not be compared to those in figure 4.

- 2) The threshold for families who must undergo an affordability test was lowered to 151 percent of FPL (it had previously applied only to those between 226 and 300 percent of FPL). The affordability test states that if a family has access to private or employer-sponsored coverage for a child and the cost of the premium is \$342 month or less, the child is not eligible for enrollment in the public program. This is true even if the family would face financial challenges in paying the premium or if the insurance offered did not cover a pre-existing condition.¹⁴

Figure 5



To some extent, this decline is not surprising. Several studies have documented that as premiums increase in SCHIP programs (the 1115 Waiver expansion population includes the SCHIP population) the number of enrollees decreases. Authors Ku and Coughlin estimated that premiums set at 1 percent of family income led to a 15 percent reduction in enrollment; premiums set at 3 percent of family income were estimated to reduce enrollment by as much as half.¹⁵ In 2005, researchers Shenkman and Vogel looked at the effect premium increases had on enrollment in Florida’s SCHIP program. They found a price elasticity (an estimate of responsiveness to changes in price of goods and services) for disenrollment of 2.2, meaning

¹⁴ Effective July 2006, the affordability test was modified to \$209, \$255 or \$375 a month based on income.

¹⁵ Leighton Ku & Theresa Coughlin, “Sliding Scale Premium Health Insurance Programs: Four States’ Experiences,” *Inquiry* 26 (Winter 1999-2000): 471-480 cited in: Leighton Ku & Victoria Wachino, “The Effect of Increased Cost-Sharing in Medicaid: A Summary of Research Findings,” (July 7, 2005), <http://www.cbpp.org/5-31-05health2.htm>

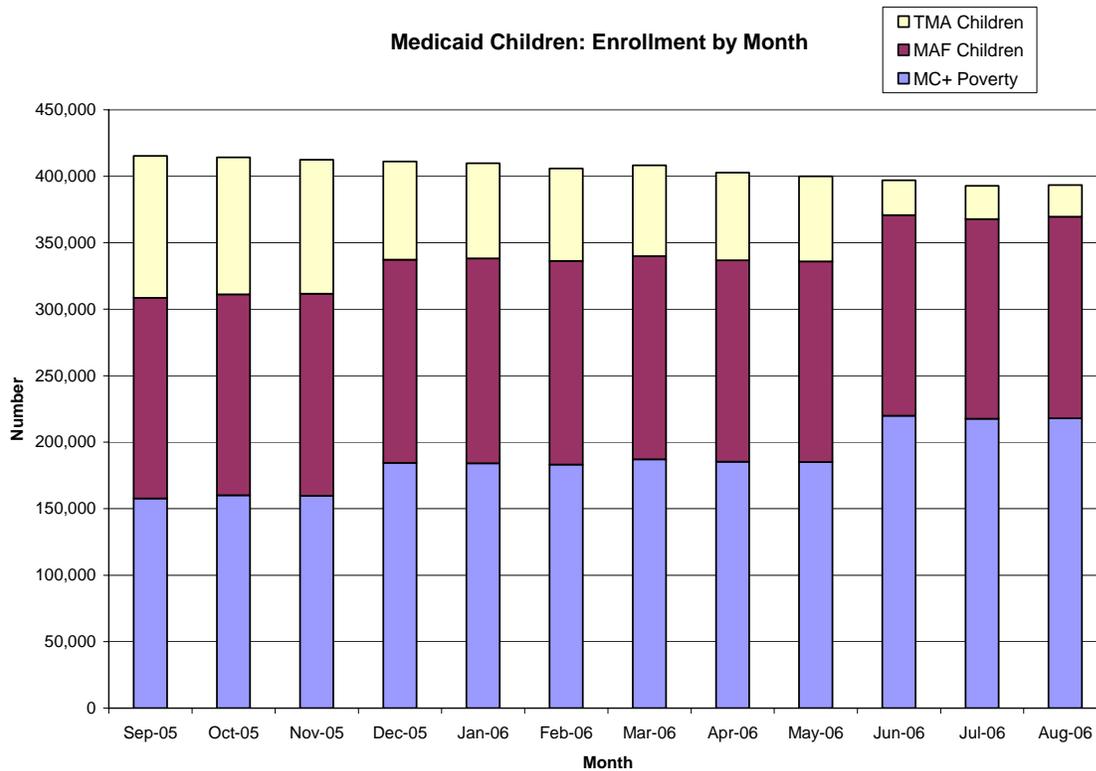
that a 10 percent increase in the monthly premium would produce a 22 percent increase in the probability of disenrollment.¹⁶ Additional information on the effect of increased cost-sharing is discussed in Research Question 6.

It is important to note that there were also declines in the enrollment among Medicaid children's eligibility categories (figure 6). Although the declines are smaller, the fact that enrollment is down for all populations suggests that factors other than the two mentioned above may have effected enrollment numbers. It is possible that some of the decrease in enrollment can be attributed to the cumulative decline in the numbers of children in Missouri. Although numbers are not yet available for the period covered by this evaluation, the number of children in July 2005 was 1,378,232, down from 1,386,910 in July 2004. The number in July 2000 was 1,424,442.¹⁷ This translates into a loss of approximately 46,000 children since 2000.

¹⁶ Betsy Shenkman & Bruce Vogel, "Increased Family Cost-Sharing in SCHIP: How Much Can Families Afford?" (June 2005), Gainesville, FL: University of Florida cited in: Su Liu & Deborah Chollet, "Price and Income Elasticity of the Demand for Health Insurance and Health Care Services: A Critical Review of the Literature, Final Report," (March 24, 2006) Washington, DC: Mathematica Policy Research, Inc.

¹⁷ U.S. Census Bureau, "Population Estimates: Age and Sex for States and for Puerto Rico: April 1, 2000 to July 1, 2005," <http://www.census.gov/popest/states/asrh/SC-EST2005-02.html>.

Figure 6



Source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2005 - August 2006.

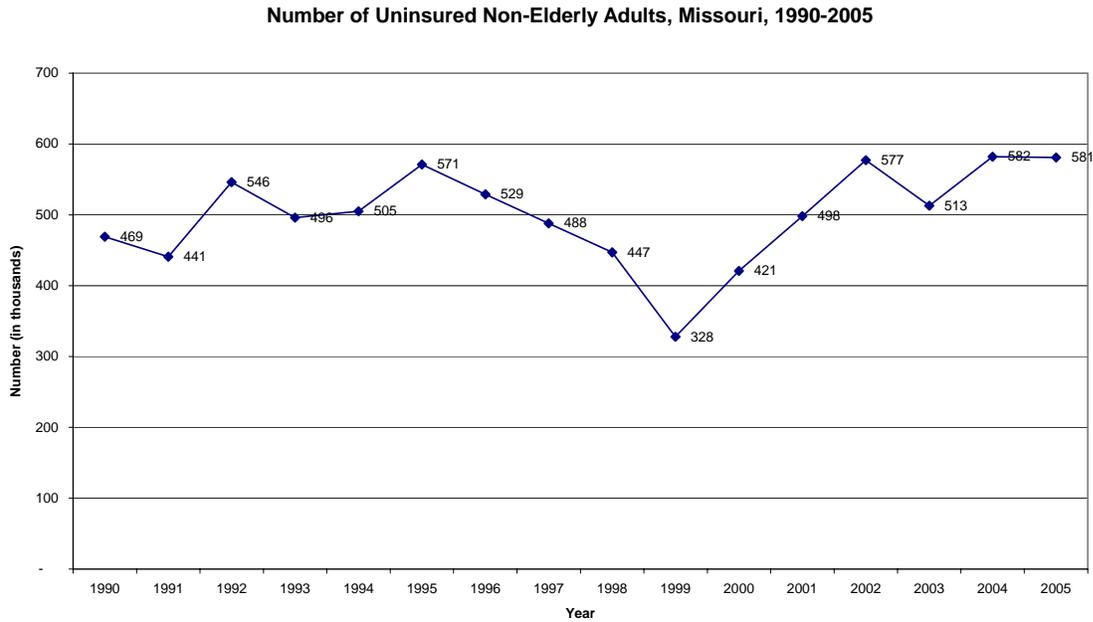
UNINSURED (NON-ELDERLY) ADULTS

It is important to note that the only population eligible for the 1115 Waiver is uninsured women losing their eligibility 60 days after the birth of their child. As a result, the Waiver has little to no effect on the rates of uninsured adults. That said, to allow for comparisons with previous evaluation periods, we report on both the rate of uninsured adults and the type of coverage they have.

Both nationally and in Missouri the numbers and rates of non-elderly adults without health insurance have been increasing since 1999-2000, the low point of the last fifteen years (figures 7 and 8). Although the actual rate of uninsured non-elderly adults in Missouri is lower than the national rate, as noted in previous evaluations, the rate of increase is greater in Missouri than it is at the national level.¹⁸

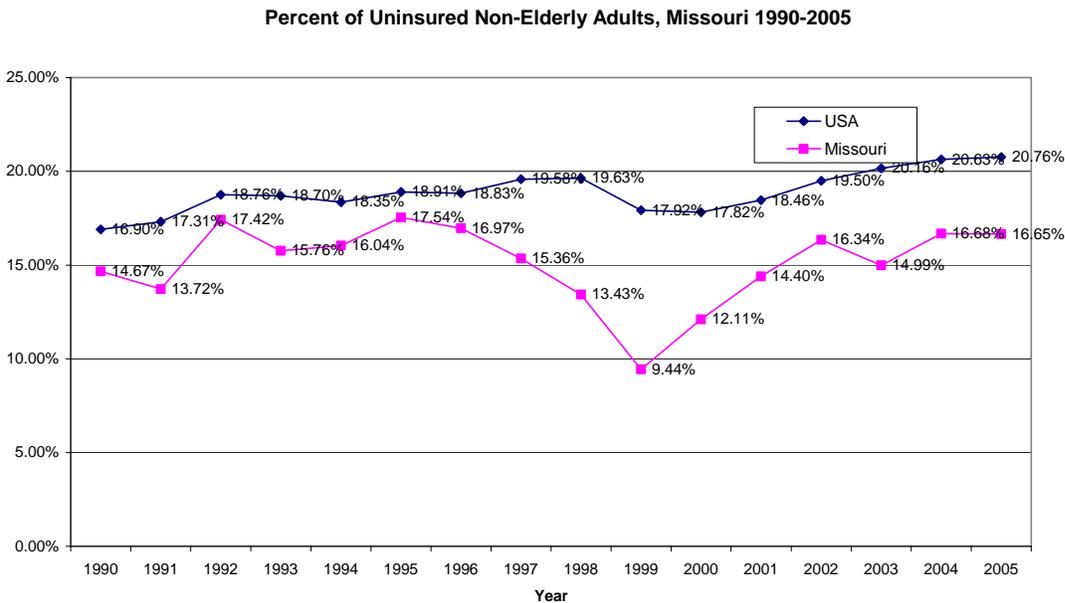
¹⁸ U.S. Census Bureau, Table HI-5 & Table HI-6.

Figure 7



Sources: U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1987 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist5.html>; U.S. Census Bureau, Historical Health Insurance Tables, Table HI-6. Health Insurance Coverage by State -- Adults Under 65: 1987 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist6.html>. Actual numbers reported here for previous years may not match those reported in previous evaluations as the U.S. Census Bureau issued revised estimates.

Figure 8

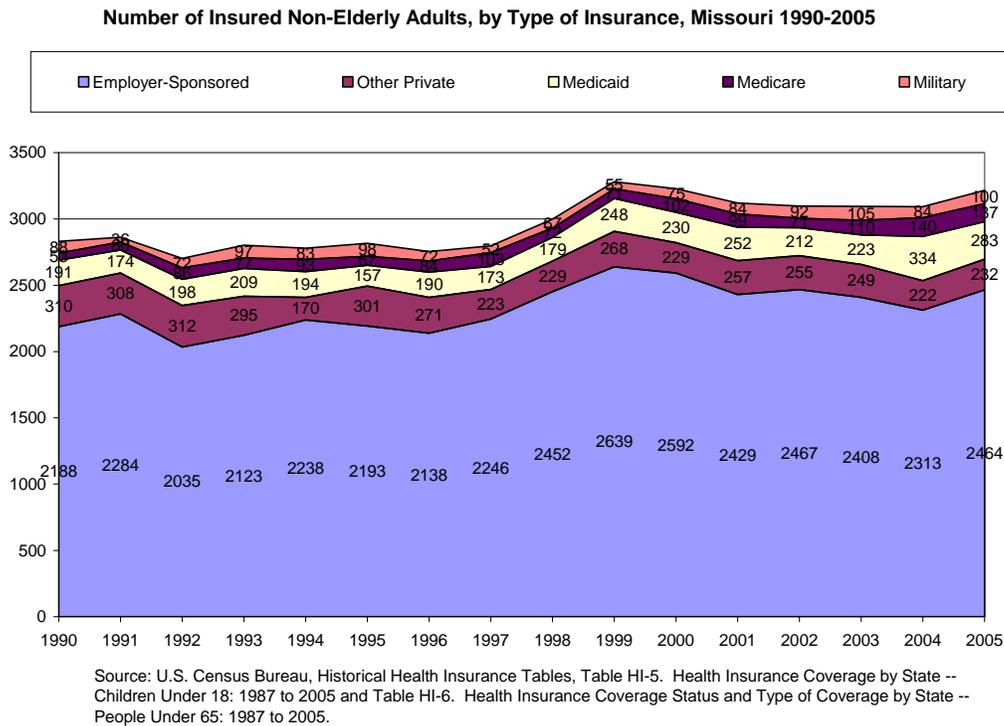


Sources: U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1987 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist5.html>; U.S. Census Bureau, Historical Health Insurance Tables, Table HI-6. Health Insurance Coverage by State -- Adults Under 65: 1987 to 2005. Available at: <http://www.census.gov/hhes/hlthins/historic/hihist6.html>. Data reported here for previous years may not match those reported in previous evaluations as the U.S. Census Bureau issued revised estimates.

INSURED (NON-ELDERLY) ADULTS

The number of non-elderly adults in Missouri with ESI has increased slightly from 2004 to 2005. However, the number is still down from its peak in 1999 when more than two million adults had ESI. Concurrently, fewer adults are enrolled in Medicare and Medicaid than were enrolled in 2004—a peak year for enrollment in both programs. It is important to note, however, that the enrollment numbers are the second highest ever (figure 9).

Figure 9



Thus for adults, although there have been fluctuations, the general trend over the past several years is one of stability as it relates to the types of insurance they have.

SUMMARY AND CONCLUSIONS

In terms of both numbers and rate, it is clear that the 1115 Waiver is providing coverage to children who might otherwise be uninsured. This is true even for this most recent evaluation period during which there were fewer children enrolled, primarily due to newly implemented eligibility changes. The rate of uninsured children has remained relatively stable in the State of Missouri over the past three years and, though higher than it was from 1999 through 2002, it is

lower than it had been prior to the implementation of the 1115 Waiver. Moving forward, the number of children eligible for the 1115 Waiver expansion may increase because effective July 1, 2006 changes were made that, according to State estimates, will allow approximately 5,500 children who lost coverage to re-enroll.¹⁹ In addition, if the cost of ESI continues to rise and/or its availability continues to decline, additional children may become eligible for the program.

During this evaluation period, the only adults still eligible for the 1115 Waiver program are uninsured women losing their Medicaid eligibility 60 days after the birth of their child (monthly enrollment ranges from 10,000 to 14,000 adults). As a result of these program changes, the 1115 Waiver expansion has little to no effect on the rate of uninsured adults in Missouri. That said, however, the rate of uninsured adults in Missouri has remained relatively stable over the last four years and is lower than the national rate. As with children, if current trends of ESI coverage continue, the rate of uninsured adults may rise.

¹⁹ Missouri Governor Matt Blunt's Press Office, "Blunt Expands Children's Access to Healthcare," (June 15, 2006), <http://www.gov.mo.gov/press/SCHIPS061506.htm>

RESEARCH QUESTION 2: HAS THE 1115 WAIVER IMPROVED THE HEALTH OF MISSOURI'S CHILDREN AND FAMILIES?

In order to evaluate the impact of the 1115 Waiver on the health of Missouri's children and families we examined the following indicators:

- **Frequency of avoidable hospitalizations** (hospitalizations are considered to be avoidable when the associated primary diagnosis is for a preventable or manageable illness) **and emergency room (ER) visits;**²⁰
- **Utilization of preventive and wellness services;** and
- **Frequency of medical and non-medical grievances** filed by or on behalf of the 1115 Waiver population. Since one of the desirable outcomes associated with the 1115 Waiver is an improvement in health status, improved health status should (theoretically) be reflected in a decreased frequency of grievances.

The data used to compute these indicators were compiled and provided to us by the Department of Social Services (DSS) and the Department of Health and Senior Services (DHSS). When brought together these indicators provide significant insight into the health of the 1115 Waiver expansion and Medicaid populations that are being studied.

AVOIDABLE HOSPITALIZATIONS AND EMERGENCY ROOM USE

As in previous evaluations, our goal is to ascertain the effect of the 1115 Waiver on children by comparing the experience of 1115 Waiver expansion children to that of Medicaid and Non-Medicaid children during a common time period. Additionally, our analysis considered statewide statistics as well as potential disparities across the four 1115 Waiver regions (the three MC+ managed care regions and the fee-for-service region).

Methodology and Objectives

To answer this research question, we requested utilization and diagnosis data from Missouri Department of Health and Senior Services, Community Health Information Management and Epidemiology (CHIME) for three distinct populations:

²⁰ From "Missouri Monthly Vital Statistics", 29(4), 1995, State Center for Health Statistics, Missouri Dept. of Health. The diagnoses associated with avoidable hospitalizations in this study are: Angina; Asthma; Bacterial Pneumonia; Cellulites; Chronic Obstructive Pulmonary Disease; Congenital Syphilis; Congestive Heart Failure; Dehydration; Dental Conditions; Diabetes; Epilepsy; Failure to Thrive; Gastroenteritis; Hypertension; Hypoglycemia; Kidney or Urinary Infection; Nutritional Deficiencies; Pelvic Inflammatory Disease; Severe Ear, Nose or Throat infection; Tuberculosis.

1. Children eligible for medical assistance under the 1115 Waiver (1115 Waiver expansion enrollees)²¹;
2. Children otherwise eligible for medical assistance (Medicaid Children); and
3. Children not eligible for any publicly-funded medical assistance (Non-Medicaid Children); this group consists primarily of individuals with commercial, i.e. private health insurance.

Our analysis of avoidable hospitalizations and emergency room (ER) utilization covers calendar years 1999 through 2005 (i.e., the period following the implementation of the 1115 Waiver for which complete, validated information was available). Where possible, we included benchmarks from the Healthy People 2000 targets. Where such targets were not available, we provided a national average as a benchmark to provide context for the Missouri rates.

We should note from the outset that the rates are not standardized to account for the differences in age distribution among the Medicaid, 1115 Waiver expansion, and Non-Medicaid populations. Because the income limit for Medicaid varies by age, comparatively older children comprise a disproportionate number of 1115 Waiver expansion enrollees (relative to the Medicaid population, at least). For example, in a household with two children (ages 3 and 11) and a countable income equivalent to 117 percent of the federal poverty level (FPL), the younger child would qualify for Medicaid, whereas the older child would qualify for the 1115 Waiver expansion.²² Given that the demand for health services is in part a function of a child's age, we would expect that the differing age distributions to yield different rates of utilization among the payers (and regions of the State).²³ It is highly improbable that this factor would explain the variation in the rates between the 1115 Waiver expansion and the Medicaid populations, but it likely does have an effect.

Avoidable hospitalizations – all applicable diagnoses

The American Academy of Pediatrics points to the rate of hospitalizations for ambulatory-sensitive conditions (asthma, diabetes, gastroenteritis, etc.) as a recommended indicator for evaluating the impact of SCHIP programs. High rates of avoidable hospitalizations may indicate

²¹ In other contexts and publications, these children are referred to as “SCHIP” children.

²² In Missouri Medicaid, children between the ages of 1 and 5 are generally covered up to 133 percent FPL, whereas children 6 to 18 are covered only up to 100 percent FPL. Those children under age 19 in households with countable income less than 300 percent FPL are eligible for the 1115 Waiver if they are not eligible for Medicaid.

²³ We explore the extent of this association for specific services in our analyses for Research Question 7. We would also note that MICA data reported in our discussion of Research Question 5 is standardized to a common age distribution.

lack of access to or insufficient utilization of primary care services. Consistent with this premise, for calendar years 1999 through 2005, we examined the following indicators related to the use of these services:

- Rates of avoidable hospitalizations/all applicable diagnoses; and
- Rates of avoidable hospitalizations/*asthma* primary diagnosis.

The avoidable hospitalization rates for children in the study populations are shown in Figure 10. Overall, the previously-reported downward trend in avoidable hospitalization rates (e.g., a decrease of about 5 percent between 2003 and 2004) has leveled off somewhat during 2005.

- Medicaid vs. Non-Medicaid:

The rate in avoidable hospitalizations increased slightly for the Medicaid and Non-Medicaid populations over the last year of the study period (by three and six percent, respectively). The Medicaid rate continues to be greater than the Non-Medicaid rate.

- Medicaid vs. 1115 Waiver expansion:

The rate for the 1115 Waiver expansion population decreased by roughly three percent. Also, the rate for the 1115 Waiver expansion population continues to be considerably lower – more than 40 percent lower – than the Medicaid rate. This has been true of every year of the study.

- 1115 Waiver expansion vs. Non-Medicaid:

While the 1115 Waiver expansion rate remains higher than the Non-Medicaid rate, the gap between the utilization rates of these two populations has been steadily decreasing. In 1999, the 1115 Waiver expansion rate was almost twice as high as the Non-Medicaid rate; in 2005, the 1115 Waiver expansion rate is only 21 percent higher. Moreover, the Non-Medicaid rate actually ticked up by almost six percent from 2004 to 2005 (the five-year average of this rate, which may be a more reliable measure of trends in this statistic, increased three percent), whereas the 1115 Waiver expansion rate has been decreasing consistently since 2000.

- 1115 Waiver expansion vs. Benchmark:

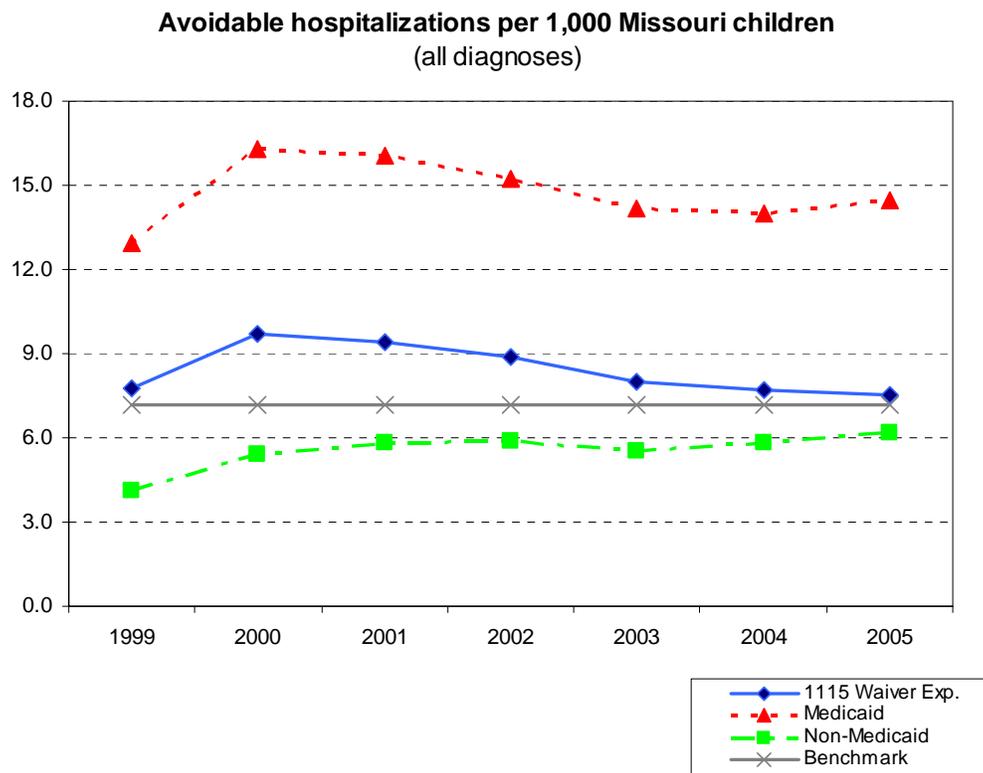
The 1115 Waiver expansion rate continues to approach the benchmark rate (7.2 per 1,000), which was computed using data from the National Hospital Discharge Survey and which is

used in other studies.²⁴ Moreover, the 33 percent decrease in the 1115 Waiver expansion rate over the last five years of the study exceeded the decrease that the national rate experienced over eighteen years.

o Regional Variation:

Relative to asthma-related hospitalizations (see below), the rates for preventable hospitalizations exhibit far less regional variation. That said, the FFS region had the highest rates for Medicaid and the 1115 Waiver expansion populations. We can discern no consistent pattern of change (i.e., increase or decrease) within each of the three categories.

Figure 10



Avoidable hospitalizations – asthma primary diagnosis

The asthma avoidable hospitalization rates for children in the study populations are shown in Figure 11.

²⁴ “Trends in Avoidable Hospitalizations, 1980-1998”; Kozak, Hall and Owings; *Health Affairs*; Mar./Apr. 2001; p. 225-232.

- Medicaid vs. Non-Medicaid:

In contrast to the stability in the Non-Medicaid rate, the Medicaid rate has been decreasing (and substantially) over the period in our analysis. It has decreased by almost one-third since 1999. Still, the Medicaid rate remains more than three times greater than the rate for the Non-Medicaid population.

- Medicaid vs. 1115 Waiver expansion:

The hospitalization rates for children in both the 1115 Waiver expansion and Medicaid populations continued to decrease between 2004 and 2005 by seven and 11 percent, respectively. While the decrease in the Medicaid rate between 1999 and 2005 – 32 percent – was even greater than the decrease in the 1115 Waiver expansion rate, the 1115 Waiver expansion rate still remains considerably lower than the Medicaid rate. Over the seven years for which statistics are available, the 1115 Waiver expansion rate has been about 47 percent lower than the rate for Medicaid.

- 1115 Waiver expansion vs. Non-Medicaid:

The gap between the hospitalization rate for the 1115 Waiver expansion population and the Non-Medicaid group continues to close. Since 2000 the gap has closed by almost two-thirds, from more than 1.7 hospitalizations per 1,000 children in 2000 to less than 0.6 hospitalizations per 1,000 children in 2005.

- 1115 Waiver expansion vs. Benchmark:

For the last four years of the study the 1115 Waiver expansion rate has remained lower than the Healthy People 2000 target rate of 2.25 asthma hospitalizations per 1,000 children.²⁵ This is noteworthy since many of the children in the 1115 Waiver expansion program meet one or more of the following criteria shown to substantially increase the likelihood of an avoidable hospitalization: prior diagnosis of asthma, adolescent age, family with working poor income, and previously uninsured.²⁶

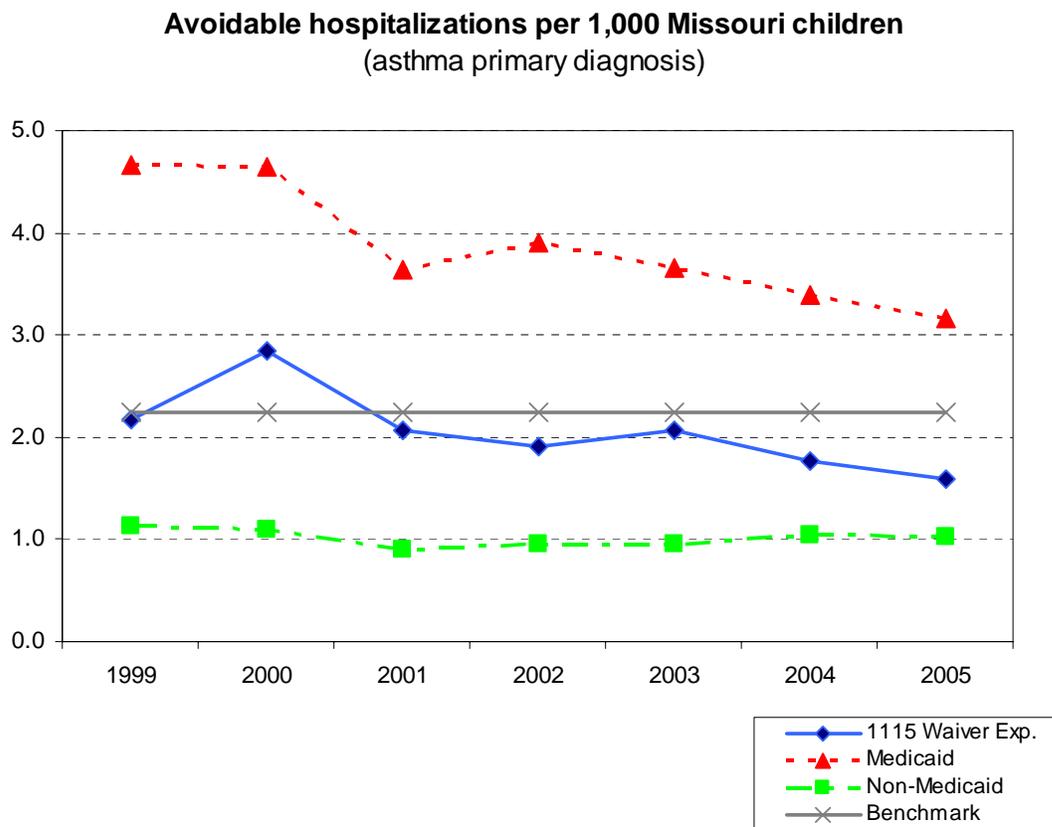
²⁵ National Center for Health Statistics. "Healthy People 2000 Final Review." Public Health Service, 2001, <http://www.cdc.gov/nchs/data/hp2000/hp2k01-acc.pdf>.

²⁶ Sun, Donglin. "Keeping children out of hospitals: parents' and physicians' perspectives on how pediatric hospitalizations for ambulatory care-sensitive conditions can be avoided." *Pediatrics* November 1, 2003.

- Regional Variation:

Rates for asthma-related avoidable hospitalization in the Eastern portion of Missouri (which includes St. Louis City and County) were consistently the highest across all three groups. The Western region was also relatively high. However, rates for both regions have decreased over time.

Figure 11



ER visits – all diagnoses

In the aggregate, the trends for emergency room utilization (Figure 12) ticked upward slightly for the 1115 Waiver and Medicaid population.

- Medicaid vs. Non-Medicaid:

Rates for both populations decreased slightly since the beginning of the study period. However, the decrease is less dramatic than with other indicators. The Medicaid rate remains over two-and-a-half times that for the Non-Medicaid group.

- Medicaid vs. 1115 Waiver expansion:

The 1115 Waiver expansion utilization rate continues to be lower than the Medicaid rate; the average difference between the two rates has increased to over 33 percent. Despite significant decreases in rates for both populations between 2003 and 2004, both metrics seem to be regressing to the previous average rates.
- 1115 Waiver expansion vs. Non-Medicaid:

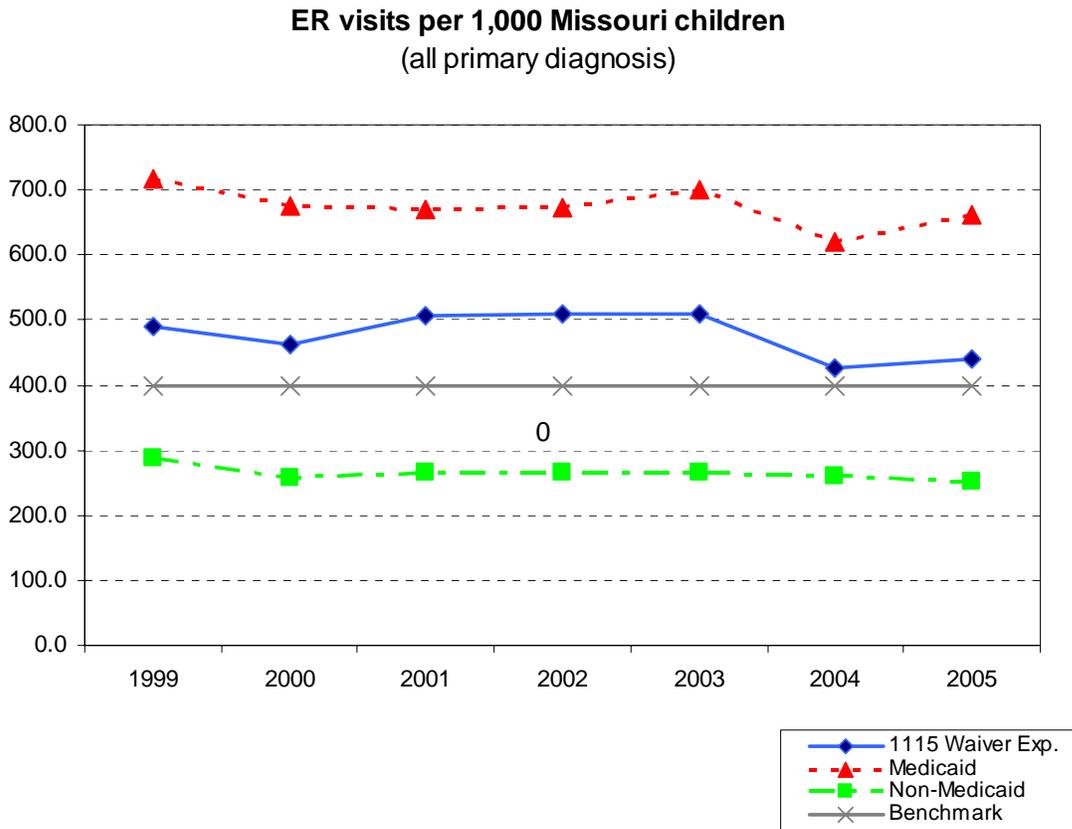
In contrast, the Non-Medicaid rate fell slightly, which further widened the gap between it and the 1115 Waiver expansion rate. Notwithstanding the small decrease in 2005, the Non-Medicaid utilization rate has remained relatively constant since 2000.
- 1115 Waiver expansion vs. Benchmark:

The 1115 Waiver expansion rate remains relatively close to the 2003 national rate of 400 visits per 1,000 children (derived from CDC statistics).²⁷
- Regional Variation:

Among the entire 1115 Waiver population (both Medicaid and expansion), the largest rise in the rate of ER visits was in the Eastern region, which experienced over an eight percent increase. In contrast, the largest growth in the rate of ER visits in the Medicaid population was in the Central region (nine percent increase) and, to a lesser extent, the FFS population (five percent increase).

²⁷ Health, United States, 2005 – Table 88. <http://www.cdc.gov>

Figure 12



ER visits - asthma

As with the broader metric for all ER rates for all diagnoses, the rates of asthma-related ER visits experienced an uptick between 2004 and 2005 (Figure 13). The 1115 Waiver expansion rate and the Medicaid rate increased by 11 and three percent, respectively.

o Medicaid vs. Non-Medicaid:

In contrast to the relative stability in the Non-Medicaid rate, the Medicaid rate has been decreasing (and substantially) over the period in our analysis. Despite an up-tick in 2005, the Medicaid rate has decreased by almost 30 percent since 1999. Still, the Medicaid rate remains over three times that for the Non-Medicaid population.

o Medicaid vs. 1115 Waiver expansion:

The ER-asthma utilization rate for the 1115 Waiver expansion population was about 32 percent lower than the rate for the Medicaid population. Interestingly, the trends between these two rates are highly correlated.

- 1115 Waiver expansion vs. Non-Medicaid:

The rate for the 1115 Waiver expansion population remains more than twice that for the Non-Medicaid population – but still lower than the Medicaid rate. Like the Medicaid rate, the rate for the 1115 Waiver expansion population exhibits more variability than that for the Non-Medicaid group.

- 1115 Waiver expansion vs. Benchmark:

The 1115 Waiver expansion ER-asthma utilization remained relatively close to the 2002 national rate (10.0 per 1,000 children) published by the CDC.²⁸

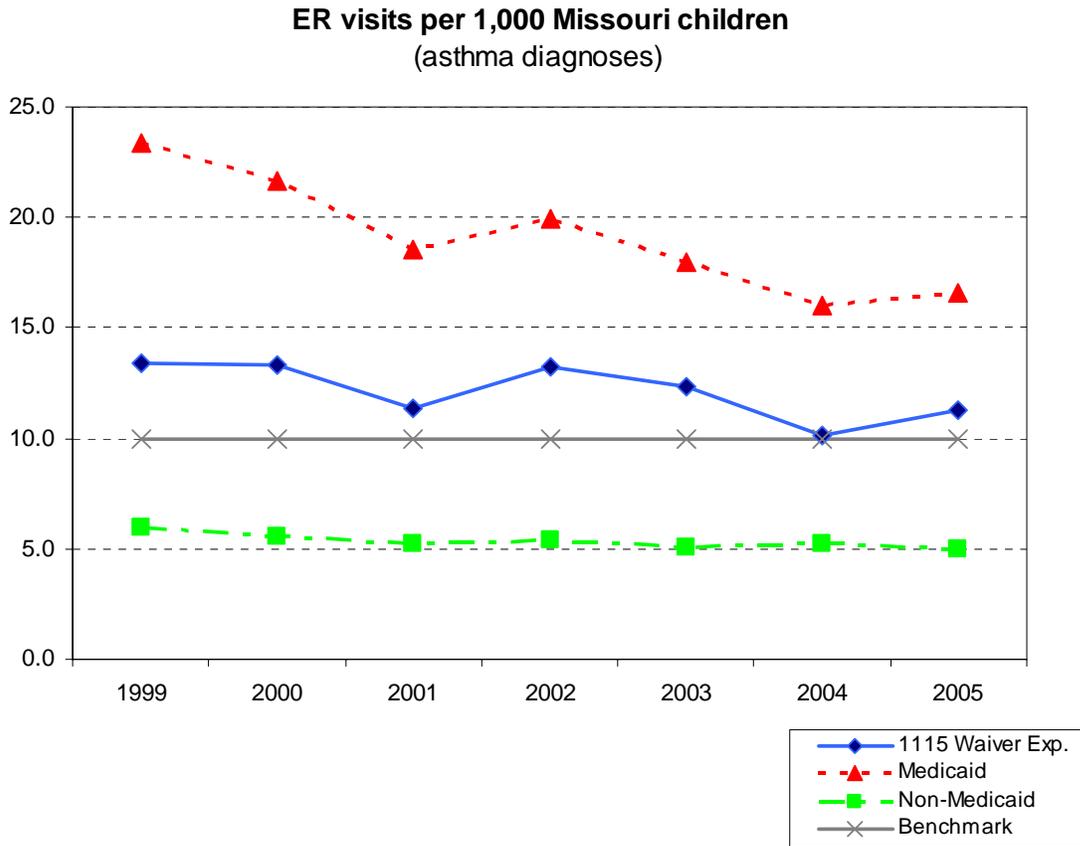
- Regional Variation:

On average the utilization rate in the more rural regions of the state (Central and fee-for-service) has been lower than the aforementioned benchmark in every year of the study. The Eastern and Western regions are more heavily urban, and as suggested by several studies, the prevalence of asthma and related illnesses should be expected to be higher in these regions.²⁹

²⁸ National Center for Health Statistics. “Asthma Prevalence, Health Care Use and Mortality, 2002.” Fact sheet by the National Center for Health Statistics, last updated February 08, 2005, <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/asthma/asthma.htm>.

²⁹ Clark, S., J. Shat, published by the Harvard School of Public Health. “Disproportionate Air Pollution Burden and Asthma in Urban Communities.” Harvard School of Public Health, <http://www.med.harvard.edu/chge/textbook/papers/Clark.pdf>; Nagourney, E. “Childhood asthma and urban geography.” *New York Times*, Sept. 29, 2000, <http://library.uchc.edu/bhn/cite/nyt/3245asthma.html>; Chakravarthy, S., R.B. Singh, S. Swaminathan, P. Venkatesan. “Prevalence of asthma in urban and rural children in Tamil Nadu.” National Library of Medicine, Sep-Oct 2002, http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12502136&dopt=Abstract.

Figure 13



A summary of all of the indicators for 2005 discussed above is presented in Table 1. The complete data is included as Appendix II.

Table 1
Summary of 2005 Indicators for Missouri Children under 19

	1115 Wvr Expansion	Medicaid	Non-Medicaid	Benchmark
Prev. hospitalizations	7.5	14.5	6.2	7.2
Prev. hospitalizations (asthma)	1.6	3.2	1.0	2.3
ER visits	439.8	662.5	251.0	400.0
ER visits (asthma)	11.3	16.6	5.0	10.0

Data source: Missouri Dept. of Health and Senior Services; benchmark data from references cited in text.

UTILIZATION OF PREVENTIVE AND WELLNESS SERVICES

We examined the degree to which the 1115 Waiver population was able to access and receive the following preventive and wellness services:

- Well baby physician/clinic services;
- Well child physician/clinic services; and
- Child and adolescent preventive immunizations.

The services examined in this part of the analysis are consistent with the definition of early preventive, screening, diagnostic and treatment (EPSDT) services.³⁰

Methodology and Objectives

To conduct our analysis we requested data from the Division of Medical Services (DMS) of the Department of Social Services on the monthly utilization of preventive and wellness services by 1115 Waiver expansion children³¹ and Medicaid children³² spanning the period of September 2005 and August 2006. In keeping with Federal guidelines, a service was deemed “preventive” and/or “wellness” when the provider assigned one of a set of procedure codes and a preventive diagnosis code to the encounter.³³

The goal of this analysis was to compare utilization of preventive and wellness services between 1115 Waiver expansion children and Medicaid children. We assume that the *minimum desirable outcome* is that the 1115 Waiver expansion population are able to access these services at a rate comparable to that of the Medicaid children.

Age and MC+ Managed Care Distribution

As discussed above, the eligibility rules for Medicaid ensure that younger children (particularly infants) are disproportionately represented in the Medicaid population, whereas older children are disproportionately represented in the 1115 Waiver expansion. The average age of enrollees in the 1115 Waiver expansion is 10.6 years, whereas it is only 7.7 years in Medicaid (median

³⁰ EPSDT services are contained in the Omnibus Budget and Reconciliation Act of 1989 (OBRA 89) and in rules and regulations managed by CMS including those pertaining to EPSDT reporting. <http://www.cms.hhs.gov/medicaid/epsdt/default.asp>. In Missouri, EPSDT is also known as the Healthy Children and Youth (HCY) program.

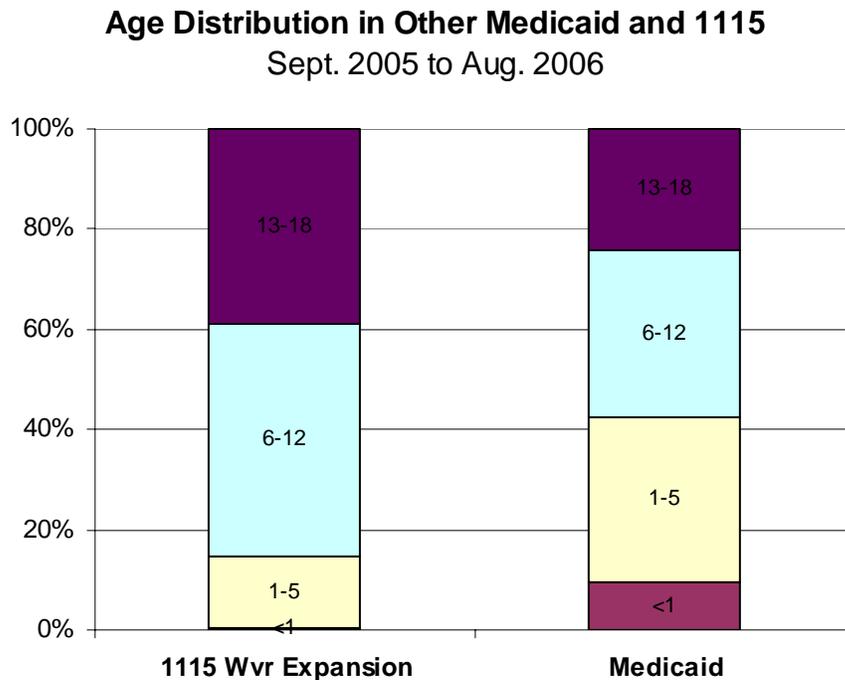
³¹ The 1115 Waiver group includes children with eligibility codes 71, 72, 73, 74, and 75.

³² The Medicaid group includes children with eligibility codes 06 to 70, 87, and 88. Note that this cohort includes children in foster care, the juvenile courts, group homes, and in the care of the Division of Youth Services. It also includes a relatively small number who are blind or have been determined to be disabled.

³³ Preventive diagnosis codes in-scope included: V20-V20.2, V70.0 and V70.3-V70.9. Procedure codes in-scope included: 99381-99385, 99391-99395, 99431-99432, 99201-99205, 99211-99215, 90476-90748.

ages 11 and seven, respectively). Additionally, more than 30 percent of 1115 Waiver expansion children are age 14 and older, compared to less than 16 percent of Medicaid children (Figure 13). Further, almost 17 percent of Medicaid children are age one or younger, compared to less than three percent of 1115 Waiver expansion children. Figure 14 illustrates these age differences.

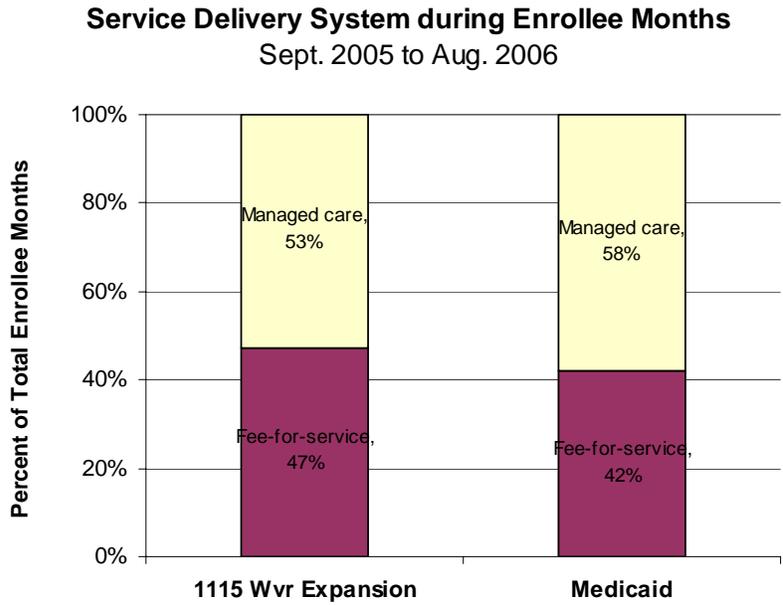
Figure 14



Source: Missouri Department of Social Services,
Division of Medical Services

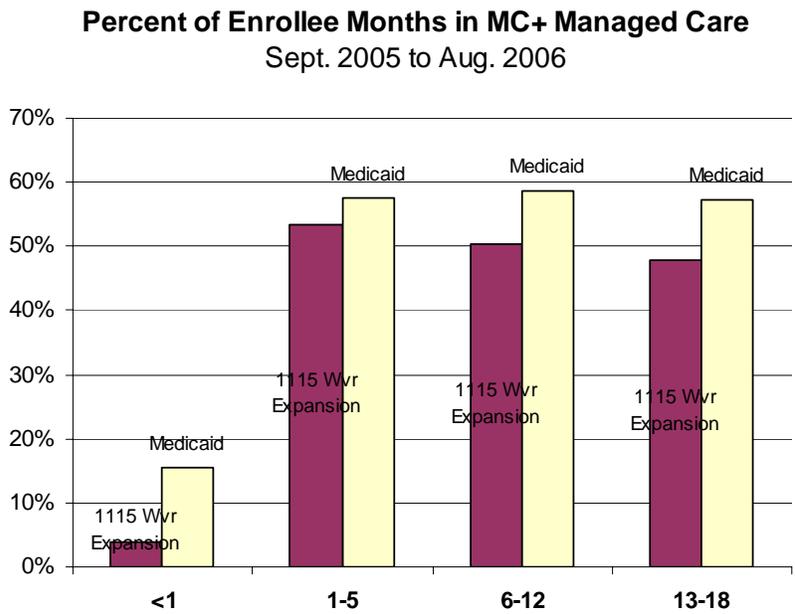
The 1115 Waiver expansion and Medicaid populations also have different proportions enrolled in MC+ managed care: 53 and 58 percent, respectively (Figure 15). Older children in the 1115 Waiver expansion are less likely to be enrolled in MC+ managed care when compared to both (a) their younger counterparts in the Waiver expansion population and (b) their peers in Medicaid (Figure 16).

Figure 15



Source: Missouri Department of Social Services,
Division of Medical Services

Figure 16



Source: Missouri Department of Social Services,
Division of Medical Services

Differential rates in MC+ managed care enrollment strongly suggest a difference in the geographic composition of the 1115 Waiver expansion and Medicaid populations. To enroll in a MC+ managed care plan, an enrollee must reside in one of the 37 counties in which the Medicaid/MC+ programs currently offer MC+ managed care. These counties are located in comparatively more urban/suburban areas of the state (largely along the I-70 corridor between Kansas City and St. Louis). The lower proportion of MC+ managed care enrollees in the 1115 Waiver expansion program indicates that a higher percentage live outside of the MC+ managed care regions – and in less densely-populated, more rural parts of Missouri.

Comparisons of Preventive Service Utilization

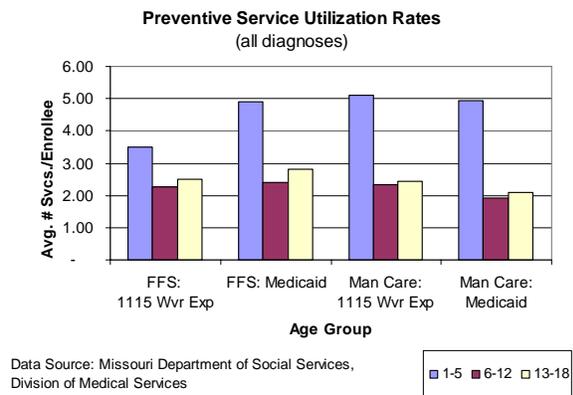
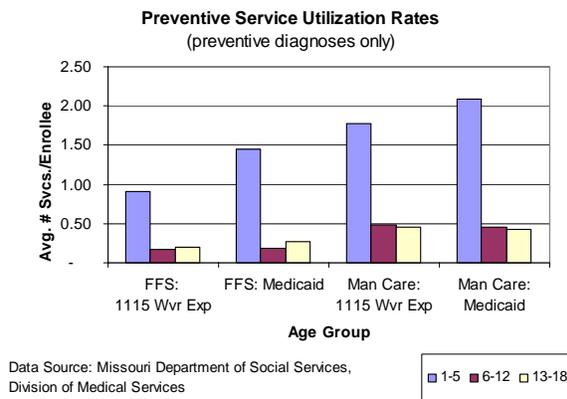
Adjusting for age³⁴ and enrollment in MC+ managed care³⁵ in the analysis yields an interesting albeit mixed picture of preventive service utilization across the two populations. As Figures 16a and 16b illustrate, children age one to five use comparatively more preventive services than their older counterparts. This outcome is consistent with the EPSDT periodicity schedule.

In the fee-for-service population, the Medicaid population had higher rates of utilization of preventive services for all age groups (Figures 17a and 17b). In contrast, the Medicaid population exhibited higher rates of preventive utilization only among the one- to five-year-olds in MC+ managed care; the Waiver expansion population had somewhat higher rates of utilization among children in MC+ managed care age six and older.

³⁴ Because of the low number of enrollees less than one year old in the 1115 Waiver (n<100), we do not include comparisons of service utilization for this age cohort.

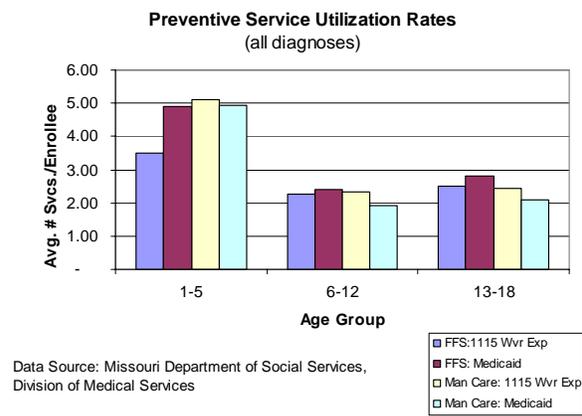
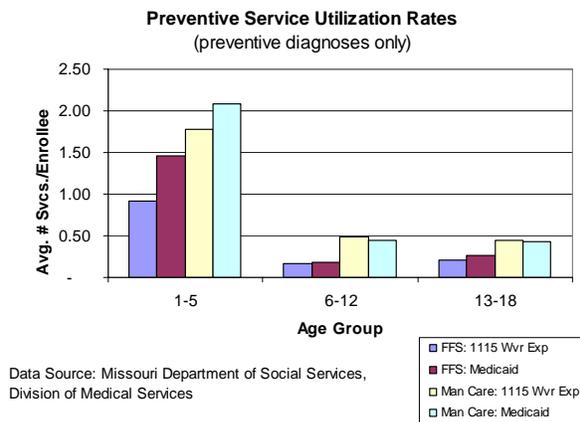
³⁵ As noted above, this is also a proxy for residing in one of the 37 managed care counties, which are relatively more suburban or urban in character.

Figures 17a and 17b



These results do not appear to be an artifact of having limited the analysis to claims with preventive diagnosis codes. In Figures 17a and 18a, we present the rates for utilization of services associated with a preventive diagnosis on the claim submission. If instead we analyze all diagnoses rather than just the preventive diagnosis codes (Figures 17b and 18b), then the differences between fee-for-service and MC+ managed care appear more muted. Among MC+ managed care enrollees, however, 1115 Waiver expansion enrollees (in all three age cohorts) appear to receive more preventive care relative to the Medicaid group.

Figures 18a and 18b



Much of the data for the figures above is presented below. Table 2 shows that during the study period an estimated 5,327 recipients in the 1115 Waiver expansion population were children age one to five who received care in the fee-for-service system. They had 4,851 encounters in

which the provider rendered a preventive service and coded the claim with a preventive diagnosis code. Thus, this group had a rate of services per recipient of 0.91. This utilization rate was only 63 percent of the corresponding rate for Medicaid children of the same age and also in fee-for-service.

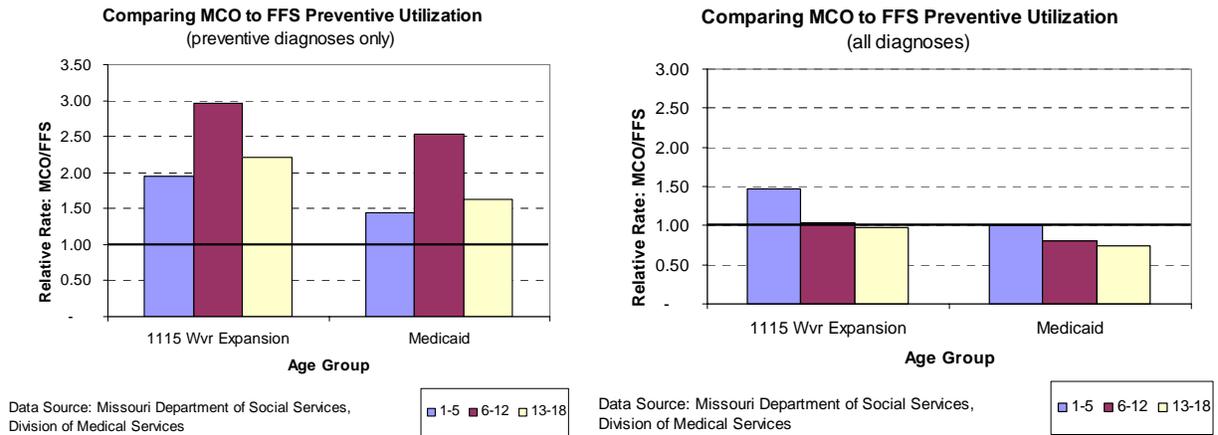
Table 2: Comparisons of Preventive Utilization by Age Group, Delivery System

Note: "ltd dx" is an abbreviation for "limited diagnoses" (i.e., the restricted set of preventive diagnoses codes).

1115 Demonstration				Medicaid				
<i>FFS</i>				<i>FFS</i>				
Age	Services (ltd dx)	Recipients	Util/Recip	Age	Services (ltd dx)	Recipients	Util/Recip	Rel. Util. 1115/Med.
<1		*		<1	110,479	18,664	5.92	-
1-5	4,851	5,327	0.91	1-5	91,359	62,945	1.45	0.63
6-12	2,641	16,089	0.16	6-12	11,198	62,991	0.18	0.92
13-18	2,731	13,391	0.20	13-18	12,340	46,924	0.26	0.78
<i>MC+ Managed Care</i>				<i>MC+ Managed Care</i>				
Age	Services (ltd dx)	Recipients	Util/Recip	Age	Services (ltd dx)	Recipients	Util/Recip	Rel. Util. 1115/Med.
<1		*		<1	195,757	25,029	7.82	-
1-5	9,607	5,408	1.78	1-5	185,137	88,842	2.08	0.85
6-12	8,907	18,338	0.49	6-12	40,397	89,511	0.45	1.08
13-18	6,867	15,279	0.45	13-18	27,076	63,465	0.43	1.05
			Rel. Util. MC/FFS				Rel. Util. MC/FFS	
			<1				<1	
			1-5				1-5	1.44
			6-12				6-12	2.54
			13-18				13-18	1.62

One of the more striking aspects of these data is the performance of MC+ managed care relative to fee-for-service. For all age groups and in both the 1115 Waiver expansion and Medicaid groups, enrollees in MC+ managed care had a substantially higher rate of utilization of preventive health services (Figures 19a and 19b). The phenomenon was most pronounced in the 1115 Waiver expansion population.

Figures 19a and 19b



The observed differences in preventive utilization may be explained (at least in part) by several factors. These include:

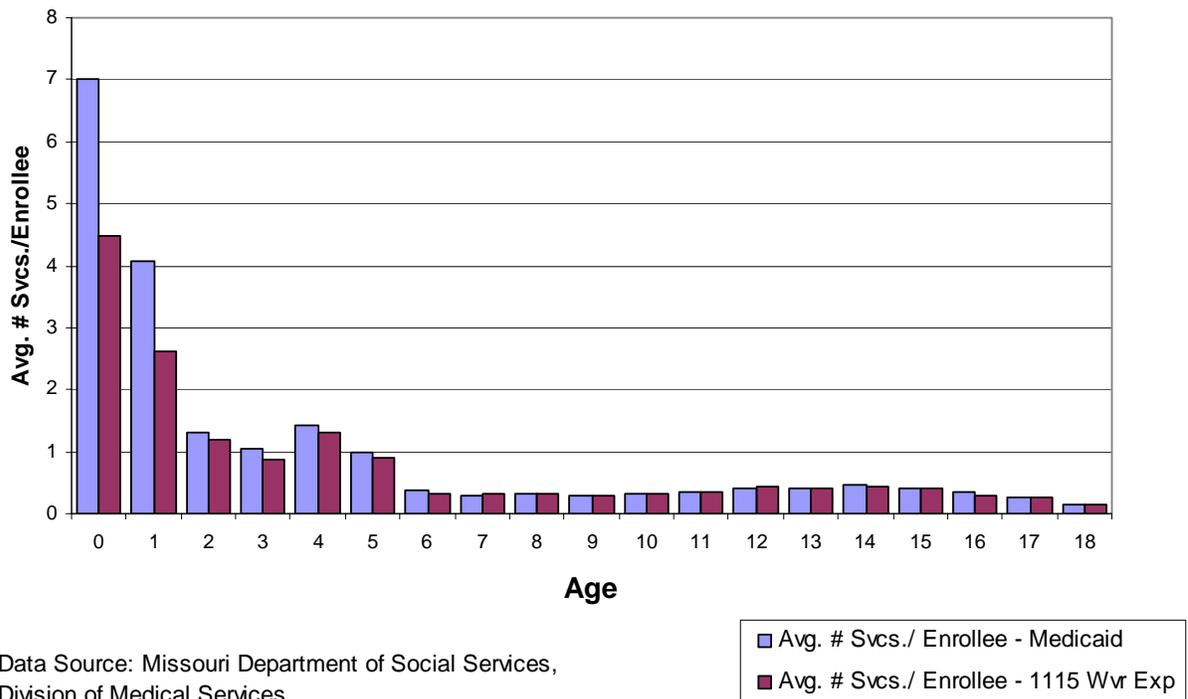
- MCOs' delivery of preventive services and coordination of care. To the extent that the MCOs achieved progress toward the goals of improving access to and the provision of preventive services, it would be reflected in these data. Specifically, the data would capture the effects of the MCOs' efforts to improve (1) delivery of preventive services during both routine and episodic encounters and (2) coordination of an individual enrollees' care. The data may also reflect the differing practices of in-network providers relative to those outside of the MCOs' networks.
- Enrollment process differences. While an enrollee is waiting to choose a plan, s/he is in fee-for-service. As a result, some portion of the total number of fee-for-service months (the denominator in the utilization per recipient rates above) are attributable to this "MCO assignment pending" period. If utilization of preventive services during the "pendency" period is higher than normal, then this phenomenon would inflate the rate of service utilization during fee-for-service enrollment months and depress the rate during the MC+ managed care population enrollment months. This would disproportionately affect Medicaid, which has relatively higher MC+ managed care enrollment.³⁶

³⁶ Due to data limitations, however, we are unable to evaluate this concern.

- Notation of preventive diagnoses. If either MC+ managed care or fee-for-service claims are systematically more likely to include a preventive diagnosis (for treating the same underlying clinical condition), then the rate of “preventive” service utilization would be higher for that service delivery system.³⁷
- Other factors. Even though we controlled for age and duration of enrollment, there may be other demographic differences (e.g., rural vs. urban geography) between the populations that affect the rates in question.

For reference purposes, we include below a graphical depiction of the utilization rate of preventive service utilization by age (Figure 20) and an accompanying detailed list of utilization rates (Table 3). Please note, however, that these are not adjusted for MC+ managed care enrollment.

Figure 20: Summary Comparison of Preventive Utilization by Age, Program



³⁷ As a preliminary step in our analysis, we compared the service utilization associated with preventive diagnosis codes with service utilization for all diagnosis codes (Figures 18a and 18b). The difference in relative utilization between managed care and fee-for-service largely disappeared. However, the 1115 Waiver population still seemed to have received relatively more preventive services in managed care relative to the Medicaid population.

Table 3: Detailed Comparison of Preventive Utilization by Age, Program

Medicaid				1115 Waiver Expansion				Avg. # Svc./ Enrollee - 1115 Wvr Exp	Diff., 1115 Wvr Exp - to - Medicaid
Age	Service Units	Avg. # Enrollees/ Study Period	Avg. # Svcs./ Enrollee - Medicaid	Age	Service Units	Avg. # Enrollees/ Study Period			
0	306,231	43,693	7.01	0	670	149.8333	4.47	-36.2%	
1	134,450	33,076	4.06	1	5097	1949.083	2.62	-35.7%	
2	40,684	31,010	1.31	2	2625	2203.833	1.19	-9.2%	
3	31,079	29,897	1.04	3	1869	2112.833	0.88	-14.9%	
4	41,662	29,285	1.42	4	2751	2100.583	1.31	-7.9%	
5	28,614	28,520	1.00	5	2123	2367.833	0.90	-10.6%	
6	9,108	24,759	0.37	6	1589	4825.167	0.33	-10.5%	
7	7,029	23,406	0.30	7	1532	4926.417	0.31	3.6%	
8	7,053	22,013	0.32	8	1490	4861.333	0.31	-4.3%	
9	6,441	21,090	0.31	9	1447	4841.25	0.30	-2.1%	
10	6,271	20,386	0.31	10	1591	4933	0.32	4.8%	
11	7,219	20,318	0.36	11	1689	4884.917	0.35	-2.7%	
12	8,474	20,531	0.41	12	2210	5155.333	0.43	3.9%	
13	8,424	20,733	0.41	13	2083	5199.583	0.40	-1.4%	
14	9,741	20,605	0.47	14	2327	5306	0.44	-7.2%	
15	8,272	20,064	0.41	15	2080	5276.75	0.39	-4.4%	
16	6,477	18,777	0.34	16	1480	4999.417	0.30	-14.2%	
17	4,385	16,837	0.26	17	1144	4448.083	0.26	-1.2%	
18	2,117	13,373	0.16	18	484	3440.083	0.14	-11.1%	

MEMBER GRIEVANCES

The Division of Medical Services (DMS) of the Department of Social Services provided us with data related to grievances filed by all 1115 Waiver expansion enrollees (including children and adults) against their plan or the health care providers with whom they interacted. For this year’s report the grievances were compiled for the following periods:

- o Period A: January 2002 to September 2002
- o Period B: January 2003 to September 2003
- o Period C: January 2004 to September 2004
- o Period D: October 2004 to August 2005
- o Period E: September 2005 to August 2006

We then computed the average number of grievances per month for each period. Finally, we converted these averages to per-member per-month statistics by factoring the average number of 1115 Waiver expansion enrollees per month during each Period. This enables an “apples-to-apples” comparison across periods. These statistics are shown in Table 4.

Table 4:

Comparison of 1115 Waiver Member Grievances Between Reporting Periods

		X	Y	Z	Y/(Z/1,000)
		Grievances	Avg. Grievances	Avg.# Members	Y/(Z/1,000)
		during Period	per Month	during Period	Grievances/ 1,000 Members/Year
Period A	1/02-9/02	104	11.6	76,636	1.81
Period B	1/03-9/03	77	8.6	84,020	1.22
Period C	1/04-9/04	129	14.3	90,691	1.90
Period D	10/04-8/05	132	12.0	103,408	1.39
Period E	09/05-8/06	192	16.0	69,947	2.74

Source: Missouri Department of Social Services, Division of Medical Services

Despite declining enrollment during this period, the actual number of grievances increased by roughly 45 percent, and the number of grievances per 1,000 members increased by 97 percent. As Table 5 illustrates, members of Blue Advantage Plus, First Guard, and HealthCare USA were roughly twice as likely to file grievances or appeals as enrollees in other plans.

Table 5: 1115 Waiver Expansion Member Grievances by MC+ Managed Care

Organization,

September 2005 to August 2006

Managed Care Organization (MCO):	Avg. Enrollees by Month (9/05-8/06)	% Total	# of Complaints (9/05-8/06)	% Total	Complaints Ratio Relative to Average
Blue-Advantage Plus (BA+)	3,246	8.3%	21	10.9%	1.32
Children's Mercy FHP (CMFHP)	5,448	13.9%	24	12.5%	0.90
First Guard (FG)	3,718	9.5%	24	12.5%	1.31
Harmony Health Plan (Harmony)	*				
HealthCare USA (HCUSA)	15,415	39.4%	90	46.9%	1.19
Mercy CarePlus	7,645	19.6%	24	12.5%	0.64
Missouri Care (Missouri)	3,601	9.2%	9	4.7%	0.51
TOTAL (FOR AVG. ENROLLMENT)	39,103		192		1.00

* First members enrolled in July 2006; no member complaints received during reporting period.

Source: Missouri Department of Social Services, Division of Medical Services

DMS adopted a new grievance classification system effective January 1, 2006. Under the new taxonomy, DMS categorizes member grievances and appeals as follows:

- | | |
|---|---|
| 1. MC+ Managed Care Health Plan/Provider Policy | 12. MC+ Managed Care Health Plan Information |
| 2. Provider Staff Behavior | 13. Provider Communication |
| 3. MC+ Managed Care Health Plan Staff Behavior | 14. Member Rights |
| 4. Appointment Availability | 15. Other |
| 5. Network Adequacy/Availability | 16. Service Denial |
| 6. Waiting Times (office, transportation) | 17. Service Reduction, suspension or termination |
| 7. Condition of Office/Transportation | 18. Payment Denial |
| 8. Treatment Plan/Diagnosis | 19. Timeliness of Service |
| 9. Provider Competency | 20. Prior Authorization Timeliness |
| 10. Interpreter | 21. Recipient receiving bills/provider requests payment before rendering services |
| 11. Fraud and Abuse of Services | |

The new approach also provides 17 additional codes for provider appeals. This coding scheme provides substantially more detail than the previous set of codes (which used 19 categories for both member and provider grievances and appeals).

The State classified 138 of the 192 member grievances and appeals (72 percent) using the new codes. As Table 6 illustrates, almost two-thirds of the grievances and appeals involved service denials or payment issues. The increase in such grievances and appeals may be related to the disenrollment of 1115 Waiver expansion enrollees and related issues arising in the transition period thereafter.

Table 6

Grievance/Appeal Code	Grievances	% of All Grievances
Service denial (appeal)	47	34%
Recipient receiving bills/ provider requests payment before rendering services	23	17%
Payment denial (appeal)	16	12%
Provider staff behavior	11	8%
Treatment plan/diagnosis	9	7%
Network adequacy/availability	5	4%
Health plan/provider policy	5	4%
	4	3%
Waiting times (office, transportation)		
Timeliness of service (appeal)	2	1%
Appointment availability	2	1%
Health plan staff behavior	2	1%
Other	12	9%
Total	138	

SUMMARY AND CONCLUSIONS

There are several noteworthy and potentially positive developments in this evaluation of health status indicators. These include:

- Avoidable hospitalizations:** The rate of preventable hospitalizations for asthma have decreased for both Medicaid and the 1115 Waiver expansion population. In contrast, the overall rate of avoidable hospitalizations for all diagnoses, which had been decreasing, have now stabilized or increased slightly. The latter is also true of the rate for the Non-Medicaid population.
- Emergency room utilization:** Rates of ER use (both for asthma and for all diagnoses) have increased in both the 1115 Waiver expansion and Medicaid populations. It is unclear whether this reflects an underlying change in the mix of enrollees (due to the disenrollment of some children who lost financial eligibility and were likely from higher income families) or whether these one-year observations simply reflect natural year-to-year variation. ER utilization among the Non-Medicaid population remained largely unchanged.
- Preventive service utilization:** Children in the 1115 Waiver expansion continue to access preventive and wellness services. Consistent with the EPSDT periodicity schedule, younger

children have more preventive encounters than older children. Additionally, children in MC+ managed care (particularly children age 6-12 and those in the 1115 Waiver expansion) have a greater number of encounters associated with a preventive diagnosis on the associated claim.³⁸

- **Grievances:** The number of grievances and appeals from 1115 Waiver enrollees increased substantially during the last year. However, we are reticent about attributing this increase in grievances to enrollee concerns about the quality of services and the delivery of care under the 1115 Waiver expansion. Rather, the increase in the number of grievances is likely due to (a) the changes to the grievance system itself and (b) the program eligibility revisions, which led to the disenrollment of a number of previously-eligible children. For this reason, the volume of grievances may be an increasingly unreliable proxy for measuring satisfaction with health care services and health status among 1115 Waiver expansion enrollees.

While we note some areas of concerns and need for continued monitoring, these indicators suggest overall that the 1115 Waiver expansion has had a salutary effect on the health status of Missouri's children.

³⁸ It is unclear why the fee-for-service population appears to lag behind the cohort in managed care in terms of preventive service utilization. Additional analyses are needed to determine whether this result is indicative of a genuine concern or is simply a harmless artifact of the data.

RESEARCH QUESTION 3: WHAT IS THE IMPACT OF THE 1115 WAIVER ON PROVIDING A COMPREHENSIVE ARRAY OF COMMUNITY BASED WRAPAROUND SERVICES FOR SERIOUSLY EMOTIONALLY DISTURBED CHILDREN (SED) AND CHILDREN AFFECTED BY SUBSTANCE ABUSE?

Wraparound services are a class of treatment and support services provided to a seriously emotionally disturbed (SED) child and/or the child's family with the intent of facilitating the child's functioning and transition towards a better mental health state. Per the Department of Mental Health (DMH), the services that may be provided under this definition and are included in this analysis are:

- **Family support services** that help to develop a support system for parents of SED children, services include programs to develop problem solving skills, providing emotional support and assisting in linking services and parent-to-parent guidance;
- **Case management** which entails the arrangement and coordination of treatment and rehabilitation needs and the coordination of services and support activities;
- **Respite care** services which may be provided on a time limited basis either in or out of the home to support the family in maintaining a child at home;
- **Family assistance** which are services provided in a variety of settings; activities provided may include home living and community skills, transportation, working with the adult members on parenting skills, communication and socialization, and arranging for appropriate services and resources available in the community;
- **Targeted case management (TCM)** which includes the arrangement, coordination and participation in the assessment; coordination of the service plan implementation (including linking children and families to services and arranging the supports necessary to access resources and facilitating communication between service providers); monitoring the services delivery plan; and documenting all aspects of intensive targeted case management;
- **Wrap-around services** which, according to the state's definition, may include the following:
 - *Respite* for emergency or planned in-home or out-home respite;

- *Transportation support* to enable the child and his/her family to access needed services and support;
- *Social and recreational support* services that enable the child and his/her family to participate in activities that s/he would otherwise not be able to be involved in due to distance and/or cost;
- *Basic needs support* services provided on a temporary and/or emergency basis;
- *Clinical/medical support* services, not including traditional outpatient services, that help meet non-behavioral health treatment needs as well as facilitate meeting the child's overall treatment goals; and
- *Other specialized support* services such as crisis management, legal support, basic schooling and vocational training that cannot be met through other means.

As with last year's evaluation, we focus on comparing utilization of wraparound services across service delivery systems and, in particular, evaluating whether MCO enrollment impacts how and/or what wraparound services are provided. To that end we compiled and analyzed eligibility and service utilization data from DMH and DMS for the evaluation period.

DMH and DMS have developed joint protocols and guidelines for the provision of wraparound services. DMH provides the funding for the services (either full funding or the state's match). DMH also coordinates and oversees the delivery of these services. The services – and related codes – that Missouri classifies as wraparound services are listed in Appendix III.

The results from this year's evaluation are not directly comparable with those reported last year for several reasons. First this evaluation is for 12 months rather than the 18-month period of last year's report. Second, DMH requested that we alter slightly the definition of a "wrap-around" service. Third, while the structure of these analyses are similar to last year, we modified the calculation of several of the denominators herein. Specifically, we calculated the number of enrollee months in a different fashion in order to correct for data entry errors that we uncovered in the eligibility file. It may therefore be of limited value to make direct comparisons between the data reported in these separate evaluations.

METHODOLOGY FOR DATA ANALYSES

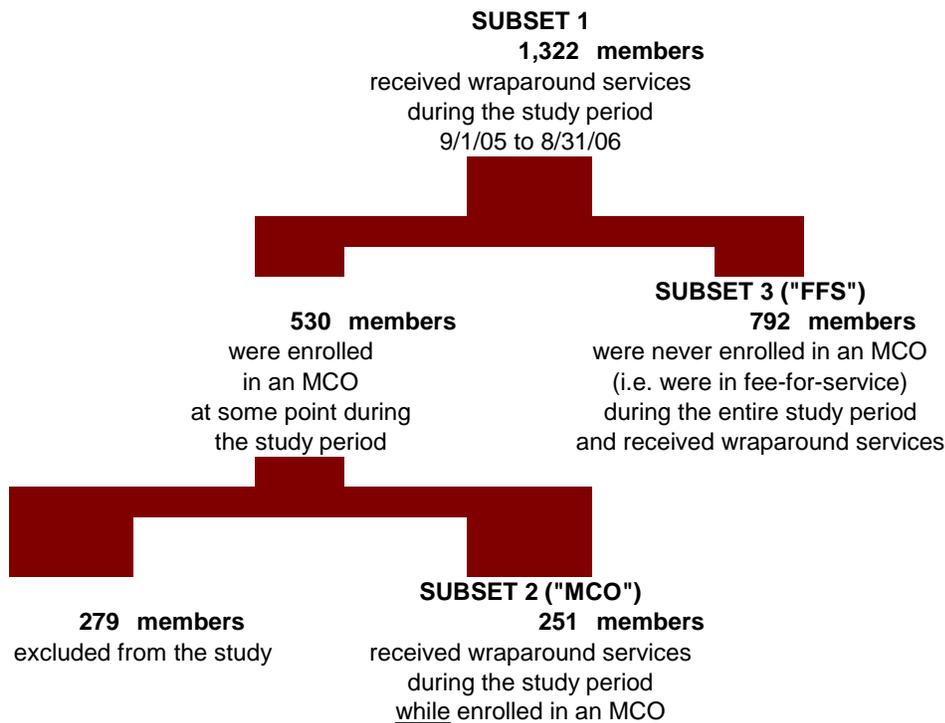
We requested and received from DSS and DMH data on 1115 Waiver expansion eligibility, MCO enrollment and wraparound service utilization. These data were for the period beginning September 1, 2005 and ending August 31, 2006. Preliminary analysis of these data revealed that over 1,300 children – hereafter referred to as **Subset 1** – in the 1115 Waiver received wraparound services during the study period.³⁹ To set up the comparison between the two service delivery systems we culled from Subset 1 two smaller subsets (Figure 21 illustrates this breakout):

- **Subset 2 (“MCO”)** – children who were enrolled in an MCO during the study period AND at the time they received wraparound services; and
- **Subset 3 (“FFS”)** – children who were in fee-for-service throughout the entire study period (i.e. children with no MCO enrollment “spans” in their eligibility files) and received wraparound services.

The 279 children who received wraparound services but were in both fee-for-service and MC+ managed care during the study period were excluded from the analysis.

³⁹ We excluded children whose period of managed care enrollment appeared to exceed the duration of their eligibility.

Figure 21: Breakout of 1115 Waiver expansion children receiving wraparound services



ANALYSIS/STATISTICS BY SUBSET – SUBSET 2 (“MCO”)

Table 7 and Figure 22 report the utilization of wraparound services among children who were enrolled in an MCO both during the study period and at the time they received wraparound services. We highlight the following:

- Average # of service units per child: 16.0
- Average months⁴⁰ of continuous enrollment in an MCO during the study period: 8.8
- Average # of service units per child per month of continuous enrollment: 1.83

These findings are discussed in the next subsection.

⁴⁰ We note that approximately 0.3 percent of the entire 1115 Waiver expansion and Medicaid populations appear to have discrete spans of eligibility that overlap. These individuals appear to be disproportionately concentrated in the fee-for-service system. Approximately 40 individuals had overlapping spans of eligibility that, when aggregated, yielded more than 365 days of eligibility during the one-year study period. We included these individuals in this analysis, but we set an upper bound of 365 days for which an individual may have been eligible during the study year.

Table 7

Use of wraparound services among 1115 Waiver expansion enrollees in Subset 2

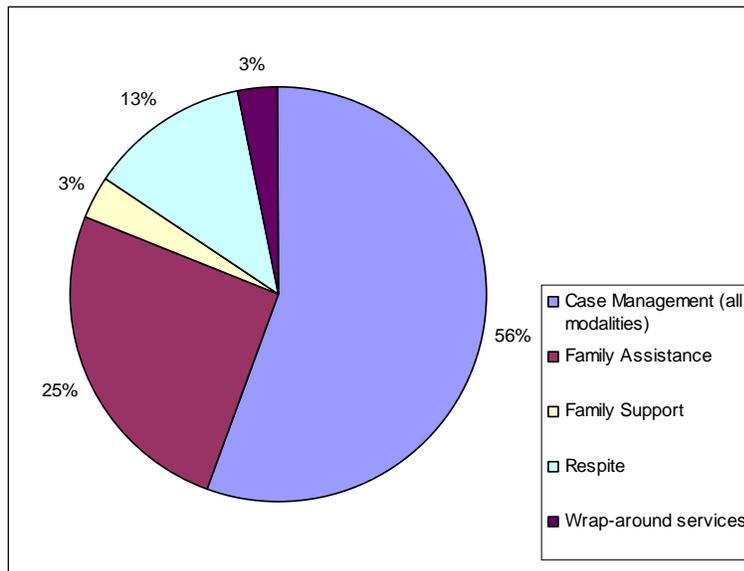
Code	Service Description	Quantity	Percent	Util. Rate (Avg. Svcs./Child)
20008H	CASE MGMT-CHILD PSYCHIATRIST	17	0%	0.07
20000H	CASE MNGMT-BACHELOR IND	273	7%	1.09
20005H	CASE MNGMT-LIC PSYCH IND	3	0%	0.01
20004H	CASE MNGMT-LIC QMHP IND	820	20%	3.27
20001H	CASE MNGMT-PARAPROFESS IND	147	4%	0.59
20001H	CASE MNGMT-PARAPROFESS IND	34	1%	0.14
20003H	CASE MNGMT-PHYSICIAN IND		0%	-
49004H	CHILD/ADOLESC FAMILY ASSIST	1,017	25%	4.05
02500H	FAMILY SUPPORT	136	3%	0.54
440001	RESPITE CARE - IND	492	12%	1.96
440021	RESPITE CARE YOUTH	18	0%	0.07
Y3127K	TARGET CASE MGMT (TCM) YTH	944	23%	3.76
39601W	WRAP-AROUND SRVCS-YOUTH IND	118	3%	0.47
Total		4,019	100%	

Source: Missouri Department of Social Services, Missouri Department of Mental Health

Note: The utilization rate is the average number of services per child.

Figure 22

Mix of wraparound services among 1115 Waiver expansion enrollees in Subset 2



Note: "Case Management" here includes TCM; "Respite" includes independent and youth respite care.

ANALYSIS/STATISTICS BY SUBSET – SUBSET 3 (“FFS”)

Table 8 and Figure 23 report the utilization of wraparound services among children who were in fee-for-service throughout the entire study period (i.e. children with no MCO enrollment “spans” in the eligibility file). We highlight the following:

- Average # of service units per child: 23.1
- Average months of continuous eligibility during the study period: 6.6
- Average # of service units per child per month of continuous eligibility: 3.52

Again, these findings are also discussed in the next subsection.

Table 8

Use of wraparound services among 1115 Waiver expansion enrollees in Subset 2

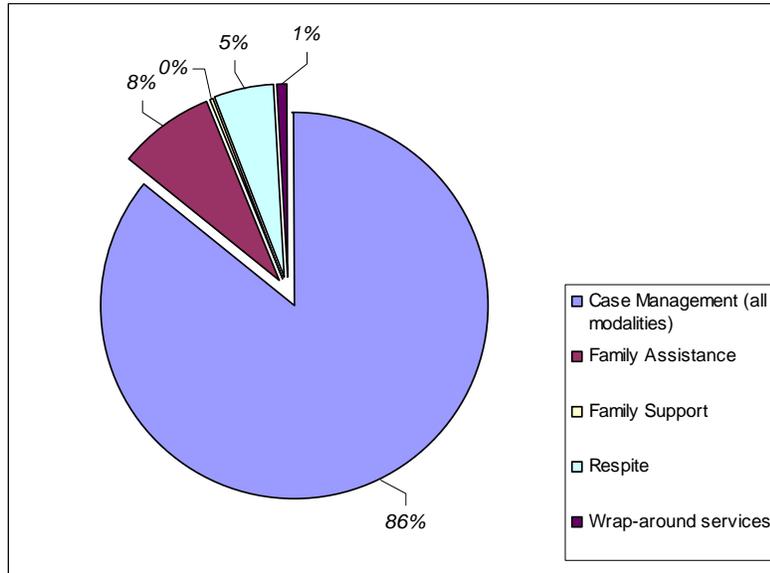
Code	Service Description	Quantity	Percent	Util. Rate (Avg. Svcs./Child)
20008H	CASE MGMT-CHILD PSYCHIATRIST	432	2%	0.55
20006H	CASE MNGMT-AD PR NURSE IND	118	1%	0.15
20000H	CASE MNGMT-BACHELOR IND	7,191	39%	9.08
20005H	CASE MNGMT-LIC PSYCH IND	22	0%	0.03
20004H	CASE MNGMT-LIC QMHP IND	1,729	9%	2.18
20001H	CASE MNGMT-PARAPROFESS IND	148	1%	0.19
20003H	CASE MNGMT-PHYSICIAN IND	94	1%	0.12
49004H	CHILD/ADOLEES FAMILY ASSIST	1,485	8%	1.88
02500H	FAMILY SUPPORT	12	0%	0.02
#N/A	RESPITE CARE - IND.	955	5%	1.21
440021	RESPITE CARE YOUTH		0%	-
Y3127K	TARGET CASE MGMT (TCM) YTH	5,943	33%	7.50
39601W	WRAP-AROUND SRVCS-YOUTH IND	129	1%	0.16
Total		18,258	100%	

Source: Missouri Department of Social Services, Missouri Department of Mental Health

Note: The utilization rate is the average number of services per child.

Figure 23

Mix of wraparound services among 1115 Waiver expansion enrollees in Subset 2



Note: “Case Management” here includes TCM; “Respite” includes independent and youth respite care.

Tables 9a and 9b and Figure 24 below report the summary comparative statistics for both subsets of enrollees.

Table 9a

Wraparound service utilization of 1115 Waiver expansion children by delivery system

SUMMARY STATISTICS, SUBSET 2 ("MCO")

Totals:	Span Days	Services
	66,450	4,019
Unique # benes:	251	
<u>Averages:</u>		
Svcs./span day	0.0605	
Span days/child	264.7	
Span months/child		8.8
Svcs./child	16.0	
Svcs./child/span month		1.83
Relative use % (Subset 2 to Subset 3):		52%

SUMMARY STATISTICS, SUBSET 3 ("FFS")

Totals:	Span Days	Services
	156,704	18,258
Unique # benes:	792	
<u>Averages:</u>		
Svcs./span day	0.1165	
Span days/child	197.9	
Span months/child		6.6
Svcs./child	23.1	
Svcs./child/span month		3.52

Source: Missouri Department of Social Services, Missouri Department of Mental Health

Table 9b

Wraparound service utilization of 1115 Waiver expansion children by service

Subset 2 = "MCO" subset; Subset 3 = "FFS" subset.

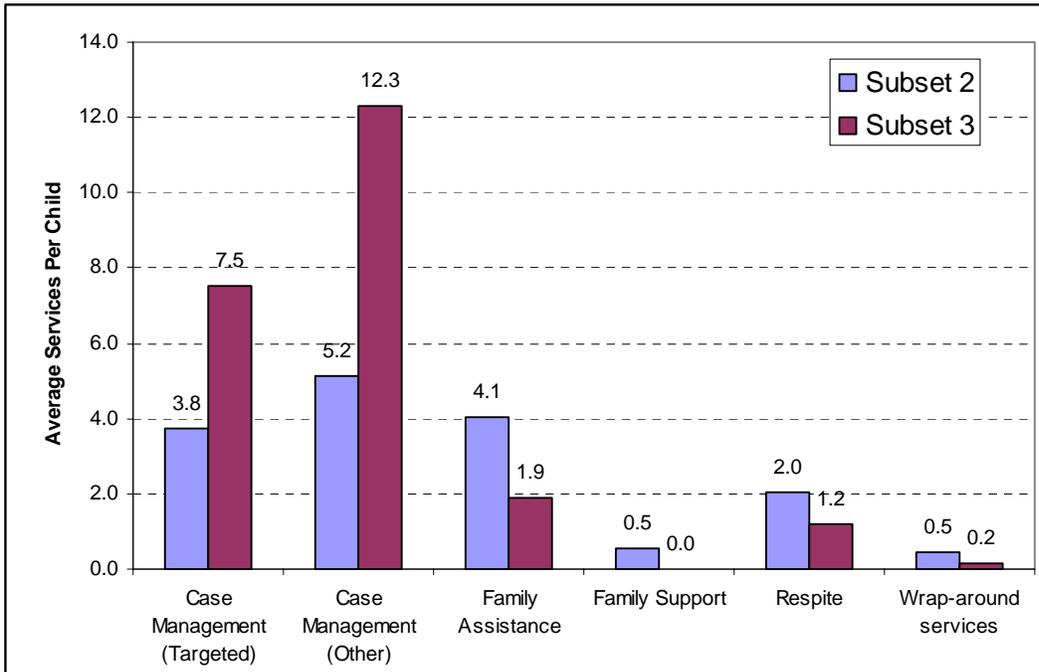
Subset 2				Subset 3			
Service Type	Quantity	Percent	Util. Rate (Avg. Svcs./Child)	Service Type	Quantity	Percent	Util. Rate (Avg. Svcs./Child)
Case Management (Targeted)	944	23%	3.8	Case Management (Targeted)	5,943	33%	7.5
Case Management (Other)	1,294	32%	5.2	Case Management (Other)	9,734	53%	12.3
Family Assistance	1,017	25%	4.1	Family Assistance	1,485	8%	1.9
Family Support	136	3%	0.5	Family Support	12	0%	0.0
Respite	510	13%	2.0	Respite	955	5%	1.2
Wrap-around services	118	3%	0.5	Wrap-around services	129	1%	0.2
Total	4,019	100%		Total	18,258	100%	

Source: Missouri Department of Social Services, Missouri Department of Mental Health

Figure 24

Wraparound service utilization of 1115 Waiver expansion children by service

Subset 2 = "MCO" subset; Subset 3 = "FFS" subset.



Source: MO Department of Social Services, MO Department of Mental Health

DISCUSSION

Despite the limitations associated with the data used in prior evaluations, we previously found that 1115 Waiver children in fee-for-service were more likely to utilize wraparound services than MCO enrollees. The more concrete statistics in this year's evaluation would tend to support that hypothesis. According to the data that was analyzed for this evaluation, the use rate of wraparound services by 1115 Waiver expansion children enrolled in an MCO is slightly less than half the use rate of 1115 Waiver expansion children served by the fee-for-service system.

These statistics alone are not conclusive evidence of an actual disparity, particularly without an analysis of whether these are similar populations or not, what non-wraparound mental health and substance abuse services the individuals are receiving, and whether there are differences not related to the service delivery model, for example, whether some services are more easily obtained in an urban area (where MC+ managed care exists) than a rural area (where there is no MC+ managed care).

There are, however, interesting differences in the mix of services across service delivery systems:

- While *case management* services are the most commonly-used wraparound services in both subsets, these make up about 52 percent of all Subset 2/MCO services but about 86 percent of all Subset 3/FFS services. In particular there is a large difference in utilization of case management services other than TCM.
- *Family assistance* makes up about 25 percent of all wraparound services used by Subset 2/MCO recipients but less than ten percent of the services used by Subset 3/FFS recipients.
- *Family support* services make up only three percent of wraparound services used by Subset 2/MCO recipients, and they are virtually not used (0.2 percent of all services) by Subset 3/FFS recipients.

SUMMARY AND CONCLUSIONS

These data demonstrate that 1115 Waiver expansion children with SED are receiving certain wraparound services, particularly case management and family assistance services. However, it appears that relatively few families are able to access and/or use respite or other wrap-around services. This is consistent with our findings in prior years in which the parents that we

interviewed indicated that case management services were available but other services were more difficult to obtain.

As part of this year's evaluation, we also analyzed service utilization rates across delivery systems. Our analysis revealed a difference between the rates at which certain services are used depending upon the service delivery system. In particular, the case management use rates (services per child) are much higher for children in fee-for service than for those in MC+ managed care. Children in MC+ managed care, however, have higher use rates for family assistance and family support services. It is unclear whether these findings are attributable to the service delivery system or geography (because MC+ managed care is concentrated in relatively more urban areas of Missouri).

RESEARCH QUESTION 4: WHAT IS THE EFFECT OF THE 1115 WAIVER ON THE NUMBER OF CHILDREN COVERED BY PRIVATE INSURERS? DOES THE 1115 WAIVER EXPANSION TO COVER CHILDREN WITH A GROSS FAMILY INCOME ABOVE 185 PERCENT FPL HAVE ANY NEGATIVE EFFECT ON THESE NUMBERS?

In answering whether the 1115 Waiver has an effect on the number of children receiving private coverage—most frequently through their parents’ employer-sponsored coverage—we are seeking to answer whether there has been any “crowd-out.” Crowd-out, defined as a shift from private health insurance coverage to public coverage, generally occurs in one of three ways:

1. an individual drops private coverage for public coverage;
2. an enrollee with public coverage refuses an offer of private coverage (does not “take-up” the coverage); or
3. employers take actions—which they would not have taken in the absence of public coverage—which have the effect of forcing or encouraging their employees to drop private coverage and shift to public coverage (for example, they increase premium contributions or no longer offer coverage at all).⁴¹

Crowd-out does not occur when people, who would otherwise have become uninsured, enroll in a public program.⁴²

MEASURING CROWD-OUT

At a basic level, one could determine the existence and extent of crowd-out by analyzing the mix of private and public coverage before a public program expansion and compare it to the mix after the program expansion was implemented. The theory is that, all else being equal, a decrease in enrollment in private insurance occurring in the same timeframe as an increase in public coverage is evidence of crowd-out. That is, of their own volition, enrollees in private insurance have decided to avoid costs and switch to publicly-funded medical assistance for which they are eligible or employers have acted to discourage their employees from taking-up their offers of coverage or have opted not to provide health insurance.

Applying this assessment method is complicated, however, by the fact that all other things are not equal. As discussed in Research Question 1, over the last several years, there has been a

⁴¹ Davidson, G., L. A. Blewett, & K. T. Call (June 2004). *Public Program crowd-out of private coverage: What are the issues?* The Robert Wood Johnson Foundation: Research Synthesis Report No. 5.

⁴² Davidson, Blewett & Call (June 2004).

loss of jobs, decreases in the percentage of firms offering employer-sponsored insurance (ESI), and increases in the cost of ESI. Moreover, in analyzing whether crowd-out has occurred it is necessary to determine whether employers are taking actions—which they would not have taken in the absence of the public coverage—because they hope to steer the employees away from employer-sponsored coverage and towards public coverage. This is difficult to determine because employers are experiencing annual increases in their costs related to providing health insurance and thus, might increase employee contributions and/or stop providing coverage regardless of the existence of expanded public programs.

On the employee side, effectively measuring crowd-out means knowing that employees have chosen not to take up the employer-sponsored coverage because they have determined they can save money by enrolling in a publicly-funded program. Again, determining what motivates people to act in certain ways is not easy. For example, employees may not take-up dependent coverage because premiums have risen by 10 percent; the existence of an expanded public program does not necessarily play into their decision.

The crowd-out issue is of concern to policy-makers seeking to expand public coverage within financial constraints. Some policy-makers and researchers argue that, given the limited funding of expansion programs, allowing individuals who are already insured or have access to ESI to enroll in a public program reduces the number of children who do not have access to ESI who can be enrolled.⁴³ Some have gone so far as to say that expanding Medicaid “causes private coverage to decline, and can even increase the number of people counted as uninsured.”⁴⁴ Conversely, others argue that crowd-out may not be a bad thing; that is low income individuals, in particular families, who elect to enroll in public programs in lieu of taking up ESI or other private coverage do so because it gives them financial relief, better coverage or both.⁴⁵

Because of the inherent challenges in quantifying crowd-out, and the importance of the issue to policy makers, much research has been done in this area. Despite all of this research, there is no consensus on how prevalent crowd-out is. A 2004 synthesis paper compiled by the Robert Wood Johnson Foundation summarized the findings of 25 different models developed to measure the effects of crowd-out. The crowd-out estimates from these models ranged from no

⁴³ Hegner, R. A. (October, 1998). “The State Children’s Health Insurance Program: How Much Latitude Do the States Really Have?” Washington, DC: National Health Policy Forum, Issue Brief No. 725.

⁴⁴ Cannon, M. F. (September 19, 2005). “Medicaid is Behind the Decline in Private Health Coverage.” The Union Leader.

⁴⁵ Hegner (October 1998).

evidence of any crowd-out to upwards of 75 percent (not all of the findings were statistically significant).⁴⁶ The huge range in these estimates is due to differences in the data (for example the way it is collected), different assumptions in developing the model (for example, assumptions about how changes in the economy would affect private coverage), differences in the programs which have been studied (e.g. state differences or differences in income thresholds), and the inherent challenges in ascertaining the motivations of both employers and employees. In sum, there is no consensus on the magnitude of crowd-out and, as evidenced by the models that showed no crowd-out effects, if it occurs at all.

PREVIOUS EVALUATIONS OF THE 1115 WAIVER

Previous evaluations of the 1115 Waiver have concluded that, though there were potential indicators—the increase in 1115 Waiver expansion enrollment numbers concurrent with decreases in CPS reported private enrollment numbers—there was not enough evidence to support a conclusion that crowd-out was occurring. That is, most likely, the changes in enrollments were due to economic conditions such as increases in unemployment, a reduction in the number of jobs that provide health insurance, and increased cost shifting of health insurance premiums by employers to employees.⁴⁷

In supporting these conclusions, we have incorporated research conducted by national-level researchers including but not limited to:

- The Robert Wood Johnson Foundation (see above);
- Thomas Buchmueller, Philip Cooper, Kosali Simon and Jessica Vistnes who examined whether the SCHIP expansions have effected employers' health insurance decisions. They found no evidence that employers dropped health insurance altogether or dropped coverage for the dependents of employees but suggested that employers whose workers were likely to have eligible children did raise family employee contributions relative to those for single coverage. The researchers also found lower-take-up rates for ESI, suggesting that employees might opt for public coverage;⁴⁸
- Julie Hudson, Thomas Seldon and Jessica Banthin who developed several different models to investigate the impact of SCHIP on insurance coverage for children and found

⁴⁶ Davidson, Blewett & Call (June 2004).

⁴⁷ Alicia Smith & Associates, LLC. (2005). *Evaluation of the Missouri Section 1115 Waiver. Review Period: September 1, 2003 – August 31, 2004.*

⁴⁸ Buchmueller, T., Cooper, P., Simon, K. & Vistnes, J. (Fall 2005). "The Effect of SCHIP Expansions on Health Insurance Decisions by Employers." *Inquiry* 42: 218-231.

that across all models SCHIP had a “significant impact in decreasing uninsurance and increasing public insurance for children targeted by SCHIP and those eligible for Medicaid.”⁴⁹ However, with respect to the effect on private insurance, they found that some models showed significant decreases in private insurance (suggesting crowd-out) while others resulted in no significant effect. The researchers concluded that because the estimates of crowd-out lacked robustness and precision, policy-makers should exercise caution in developing programs and policies based on crowd-out research. That is, it was impossible for the researchers to quantify the extent to which crowd-out occurs, if, in fact, it occurs at all; and

- Lara D. Shore-Sheppard who used March Current Population Survey data to re-create the analysis conducted by David Cutler and Jonathan Gruber in their 1996 paper—considered the seminal paper of this issue—and found no statistically significant evidence of crowd-out.⁵⁰

During the September 1, 2003 through 2004 evaluation we also spoke with 18 employers who provided us with general information about their companies and anecdotal information about their health insurance plans. In addition, two representatives of Chambers of Commerce spoke with us about what they hear from their members regarding health insurance offerings and take-up rates among employees. Specifically, we asked these individuals:

- whether they consider the existence of public coverage, in particular expanded public programs, in deciding whether to offer ESI and in developing their offerings;
- how many employees take-up individual and dependent coverage; and
- if they were aware of any employees who opted out of dependent coverage because they were aware of the Medicaid program and were going to enroll their children in it.

None of these employers indicated they considered the existence of public programs, in particular the existence of the 1115 Waiver, in developing their ESI offerings; rather the employers cited cost as the primary reason for changing their ESI offerings. Regarding take-up rates of ESI and, in particular, take-up rates for dependent coverage, many of the employers with whom we spoke said there had not been noticeable changes over the last several years; several others said that none of their employees have children or that their children are covered

⁴⁹ Hudson, J.L., Seldon, T. M. & Banthin, J.S. (Fall 2005). “The Impact of SCHIP on Insurance Coverage of Children.” *Inquiry* 42: 232-254.

⁵⁰ Shore-Sheppard, L.D. (January 2005). “Stemming the Tide? The Effect of Expanding Medicaid Eligibility on Health Insurance.” National Bureau of Economic Research, Working Paper 11091.

under a spouse's ESI plan. When asked, specifically, whether they had heard of, or were aware of, employees who did not purchase ESI for their children because they planned to enroll their children in Medicaid (including the 1115 Waiver program), seven employers and one Chamber of Commerce representative said, "yes." Of those employers who indicated this occurred, they said it was relatively uncommon—usually three to five of more than 100 employees per year. Two of these seven employers said that they have had employees return to them after declining coverage because the State had strongly encouraged them to take the ESI and not rely on the 1115 Waiver.

While these anecdotes suggested there might have been some crowd-out—that is employees declined ESI because they planned to enroll, or had enrolled, their children into the 1115 Waiver—there were other factors playing into these decisions. For example, one or two employers suggested that some of these employees might have declined coverage even in the absence of the 1115 Waiver because they could not afford the premiums. In this scenario, these children would likely have become uninsured. Another employer indicated that due to their 90-day waiting period and high turn-over rates (100 percent) many employees never become eligible for ESI. There is no crowd-out in this scenario because the employees didn't select the 1115 Waiver program in lieu of ESI, rather, as with above, in the absence of the 1115 Waiver their children would likely be uninsured.

ANALYSIS OF THE WAIVER PERIOD SEPTEMBER 2005 THROUGH AUGUST 2006

In contrast to previous years, when the number of children with private insurance declined while the number of children in the 1115 Waiver expansion increased, during this evaluation period both numbers decreased. As described in Question 1 and in greater detail in Question 6, the decline in enrollment, particularly among the 1115 Waiver expansion population is likely due to several program changes which lowered the income threshold for both premium payment and affordability test requirements. These changes effectively made it more expensive for families with incomes greater than 151 percent of FPL to enroll in the program.

Since last year's evaluation, additional research has been done in the area of crowd-out. Notably, Jonathan Gruber and Kosali Simon (both of whom conducted some of the research referenced above) examined data from 1996 to 2002 and also considered the role policies, such

as waiting periods and enrollee costs, have on crowd-out.⁵¹ They concluded that “crowd-out is significant” and that private coverage is reduced by 60 percent as much as public coverage rises during public program expansion periods. They also found that many anti-crowd-out policies, such as waiting periods and cost-sharing, have actually had the opposite effect than intended. That is, these policies lower take-up of private insurance faster than they deter crowd-out from private insurance. In addition, the Congressional Budget Office (CBO) prepared a paper on SCHIP in order to provide information as Congress considers reauthorization of the program. As part of this paper, CBO staff examined the effect the SCHIP program has had on private insurance, that is how much crowd-out has occurred. They concluded that the reduction in private coverage among children is between a quarter and half of the increase in public coverage. Or, stated another way, for every 100 children who enroll in SCHIP programs, there is a reduction of between 25 and 50 children who have private coverage.⁵²

Not surprisingly, there are other opinions. Researchers, Sommers, et al. examined the extent to which SCHIP might be crowding-out private health insurance coverage in 2002 in ten states, one of which was Missouri. They researchers found that about 14 percent of the children had private coverage and that roughly half of the parents surveyed said that though private coverage was available, it was unaffordable compared to the SCHIP Population. This brought their estimate of crowd-out down to seven per 100. In Missouri, specifically, the researchers found that the substitution rate was even lower than the rate based on the 10 states.⁵³ Finally, researchers Hadley, et. al, concluded that higher public premiums are significantly associated with higher probabilities of private coverage and uninsurance and that, “states that impose or increase public insurance premiums for near-poor children will succeed in discouraging crowd-out of private insurance.”⁵⁴

SUMMARY AND CONCLUSIONS

Given the inconclusive nature of all research done in the area of crowd-out, including but not limited to the most recent activities, it is again difficult to state with certainty that crowd-out is

⁵¹ Jonathan Gruber, Kosali Simon, “Crowd-out Ten Years Later: Have Recent Public Insurance Expansions Crowded Out Private Health Insurance?” *NBER Working Paper Series*, Number 12858. January 2007. <http://www.nber.org/papers/12858>.

⁵² Congress of the United States, Congressional Budget Office, “The State Children’s Health Insurance Program,” May 2007.

⁵³ Anna Sommers, Stephen Zuckerman, Lisa Dubay, Genevieve Kenney, “Substitution of SCHIP For Private Coverage: Results From a 2002 Evaluation in Ten States,” *Health Affairs*, March/April, 2007: 529-537.

⁵⁴ Jack Hadley, James D. Reschovsky, Peter Cunningham, Genevieve Kenney, Lisa Dubay, “Insurance Premiums and Insurance Coverage of Near-Poor Children,” *Inquiry* 43, Winter 2006/2007: 362.

occurring. More importantly, given the enrollment trends during this evaluation period, it is less likely than ever that people (particularly those with incomes greater than 150 percent of FPL) are foregoing private insurance to enroll in the 1115 Waiver expansion. This trend suggests that it is even less likely that crowd-out is a factor during this evaluation period than it had been during previous evaluation periods.

Although there is no evidence to suggest the State is not closely monitoring whether potential enrollees have access to private coverage (particularly given the changes implemented in September, 2005), close examination of its enrollment practices might reveal the need to be more thorough in determining whether potential enrollees have access to private coverage; more comprehensive information-collecting at enrollment could discourage people from opting-out of ESI in order to enroll their children in the 1115 Waiver.

RESEARCH QUESTION 5: HAS THE 1115 WAIVER AMENDMENT IMPROVED THE HEALTH OF THE INDIGENT OF ST. LOUIS CITY?

For past years, the evaluations of the 1115 focused on developments associated with ConnectCare and its impact on providing services to the medically indigent in St. Louis. The previous studies noted that these developments would likely improve safety net care coordination only over time. Further, the extant data were too limited to allow for an assessment of the effects of these changes on the health status of the target population.

We begin with a summary of the 1115 Waiver Amendment. In this evaluation cycle, though, we shift the focus from our past reports to a review of the relevant demographic and health data for St. Louis City and St. Louis County. This approach allows us to assess the wider impact of the Waiver on the medically indigent population of the St. Louis area.⁵⁵ This work should provide more comprehensive findings that bear directly on the research question posed. Because (a) the effects of this part of the Waiver manifest only after several years and (b) detection of the effects naturally lags due to reporting delays for the relevant data, we are only now able to pursue these new, more detailed types of analyses.

BACKGROUND

The 2002 St. Louis Waiver Amendment is intrinsically tied to the transition of St. Louis Regional Medical Center, the city's historically African-American inpatient service provider, to St. Louis ConnectCare (ConnectCare) in 1997. ConnectCare summarizes this history as follows:

Thousands of African-American medical professionals trained at Homer G. Phillips [Hospital], which transferred its last patients to Max C. Starkloff City Hospital in 1979. When City Hospital closed a few years later, the city and county founded St. Louis Regional Medical Center to provide care for residents.

Regional's 1997 closing dealt a devastating blow to the patients it served. Officials and health care professionals quickly formed a consortium to address the issue of access to care. This lead [sic] to the creation of today's Saint Louis ConnectCare.

Despite numerous financial challenges, ConnectCare continued to operate inpatient facility and full-service emergency room for several years. By 2000, however, ConnectCare was actively seeking additional financial assistance from the State to sustain its operations.

⁵⁵ Also, in past years St. Louis ConnectCare has also struggled with some data reporting and data quality issues. Our enlarged focus, then, ensures that our analysis is not unduly hampered by the concerns related to the existing claims and utilization data.

After extensive discussions with ConnectCare officials and St. Louis leaders, Missouri sought an amendment to its 1115 Demonstration Waiver. The Amendment sought (i) to facilitate the transition of ConnectCare to an outpatient system of care and, ultimately, (ii) to create in the St. Louis region a long-term viable “safety net” system of care for the medically indigent. To that end a portion of Disproportionate Share Hospital (DSH) funds was made available under the demonstration.⁵⁶ Additionally, the following key benchmarks were tied to the demonstration’s authorization:

1. The ongoing reporting of ConnectCare activity and costs;
2. The formation of Planning Work Groups to review regional health care issues;
3. The compilation and analysis of area data for use in strategic health planning and policy development; and
4. The preparation of a strategic plan and an implementation plan for delivery of health care services to the medically indigent population in the St. Louis area.

ConnectCare has since completed its transition to a fully outpatient system of care and operates the “largest community health center in the city of St. Louis.”⁵⁷ ConnectCare is also part of the St. Louis Integrated Health Network (IHN), which among others includes Saint Louis University, Washington University and the Saint Louis County Department of Health. The stated goal of the IHN is to “ensure access to health care for uninsured and underinsured children and adults” through increased integration and coordination of a health care safety net.⁵⁸ The IHN is funded by its members and by a grant from the Federal government's Integrated Services Development Initiative through the Health Resources and Services Administration (HRSA). The IHN has also received grants from other institutions, such as the Episcopal-Presbyterian Charitable Health and Medical Trust, to provide targeted services such as patient health literacy programs and education for minority and immigrant patients.

⁵⁶ The CMS summary of the Waiver amendment states that, “CMS approved an amendment on August 1, 2002, entitled, ‘Health Care for the Indigent of St. Louis’.... CMS approved expenditure authority for State-funded expenditures incurred by the St. Louis Regional Disproportionate Share Hospital (DSH) Funding Authority between June 28, 2002, and February 29, 2004. This authority was extended for 2 additional years ending April 30, 2007. An additional year of funding will be given if the St. Louis community can demonstrate its safety-net system can be financially viable at the end of 3 years.” Centers for Medicare and Medicaid Services. “Missouri Statewide Health Reform Demonstration Fact Sheet,” May 4, 2007, <http://www.cms.hhs.gov/MedicaidStWaivProgDemoPGI/downloads/Missouri%20MC+%20Fact%20Sheet.pdf>.

⁵⁷ Saint Louis ConnectCare. About Us, <http://stlconnectcare.org/about.html>

⁵⁸ Saint Louis Integrated Health Network. About Us, http://www.stlouisihn.org/m_aboutus.php

As of the last evaluation, ConnectCare was comprised of four primary care clinics (PCCs), an urgent care center (UCC) and a stand-alone dialysis center. As of late 2005, ownership, operation and management of the PCCs were transitioned to two health care entities in the region:

- The *Lillian Courtney* and *Max Starkloff* PCCs are now owned, operated and managed by Grace Hill Neighborhood Health Centers.
- The *Florence Hill* and *Homer G. Phillips* PCCs are now owned, operated and managed by Myrtle Hilliard Davis Comprehensive Health Centers.

Grace Hill and Myrtle Hilliard Davis are members of the IHN. In addition, both are Federally Qualified Health Centers (FQHCs), which entitles them to Section 330 grant funding, Public Health Service (PHS or 340B) pharmacy pricing, and other benefits.

According to a letter dated September 16, 2005 and signed by Glendia Hatton, President and CEO of ConnectCare, this “new healthcare delivery system” will allow ConnectCare to focus on specialty services and the Urgent Care Center. Over \$7 million in local contributions was set aside to provide for necessary capital improvements to the PCCs.⁵⁹ This ownership change has been couched as a direct result of “four years of planning through the St. Louis Regional Health Commission (RHC) which conducted a study that recommended affiliations between FQHCs and non-FQHCs.”⁶⁰

As part of this ownership transfer, the parties agreed that ConnectCare would continue to get 60 percent of the DSH funding that it would have otherwise received under the Waiver but for the transfer. The remaining DSH funding will be divided between the two FQHCs based on the proportionate share of the primary care case load that they assumed.

GENERAL IMPACT OF HOSPITAL CLOSURES

The transition of St. Louis Regional Medical Center to ConnectCare and the subsequent ConnectCare reforms mirror larger national trends. In a 2003 study, the Office of the Inspector General (OIG) of the U.S. Department of Health and Human Services (DHHS) estimates that

⁵⁹ Kit Bond U.S. Senator for Missouri Press Announcements. “Bond Celebrates St. Louis’ Improved Health Care Safety Net System Will Improve Access, Delivery of Care for Neediest Patients.” U.S. Senator Kit Bond of Missouri Web site. http://bond.senate.gov/press_section/record.cfm?id=246873

⁶⁰ Kit Bond U.S. Senator for Missouri Web site: <http://bond.senate.gov>

296 urban hospitals in America closed (10.6 percent of all urban hospitals) between 1990 and 2000. The closures included nine such facilities in Missouri.⁶¹

Lack of efficiency and other factors appear to have played a large role in these closures. Both DHHS OIG (2003) and Lindrooth et al. (2003) note that the hospitals that closed were roughly one-quarter to one-third the size of their competitors, indicating that they had fewer economies of scale and were therefore less efficient. However, efficiency alone may not explain these closures. The lack of a sustainable payer mix or adequate reimbursement may have also been a culprit. DHHS OIG indicated that the urban hospitals that closed between 1990 and 2000 also had higher Medicare and Medicaid utilization rates and higher debt than those that did not close.⁶² Indeed, both suboptimal efficiency and constrained revenue severely stressed many of these facilities – likely including the St. Louis Regional Medical Center and ConnectCare.

The efficiency gains from certain hospital closures may have partly offset the net loss in access. As noted by Lindrooth et al., urban hospital closures have generally enabled competitor facilities to evolve into slightly more efficient institutions by reducing excess capacity and lowering per admission costs. This research, along with that by Capps et al. (2006), suggests that the closure of ConnectCare's Delmar inpatient operations may have allowed the re-allocation of resources (i.e., DSH funding) from relatively inefficient, facility-based investments to more productive, less capital-intensive community health center investments. This trend is consistent with that reported in Bovbjerg et al. (2000) in Boston, Milwaukee, Tampa (which all stopped operating public hospitals in the 1990s)⁶³ as well as in San Diego and Philadelphia.

These findings parallel the experience in St. Louis. As the data in Table 10 illustrate, ConnectCare appears to have had a relatively higher-than-average rate of occupancy. However, its number of beds was below average (particularly when Barnes Jewish Hospital is excluded from the analysis), which suggests that it may have lacked certain economies of scale. Interestingly, as ConnectCare was ceasing inpatient operations, other St. Louis hospitals with relatively low efficiency were cutting beds – while facilities such as St. Johns and Baptist were increasing both the number of inpatient beds and their rate of occupancy. (St. Mary's also more

⁶¹ Office of the Inspector General, Department of Health and Human Services. "Trends in Urban Hospital Closure: 1990-2000." May 2003, <http://www.oig.hhs.gov/oei/reports/oei-04-02-00611.pdf>.

⁶² In their study of California hospital closures, Scheffler et al. (2001) indicates that this factor may be limited to public hospitals.

⁶³ In San Diego, Doyne hospital was closed; in Boston, Boston City Hospital merged with Boston University Medical Center; and in Tampa, Tampa General Hospital became a private, not-for-profit entity.

than doubled its number of beds between 2001 and 2006, but its rates of occupancy fell during this period.) Indeed, the total number of inpatient beds in St. Louis increased by almost one percent between 1996 and 2006 despite (a) ConnectCare's closure of the Delmar inpatient facility and (b) the declining population of St. Louis during this period (see next section).

Table 10

St. Louis Hospitals' Average Daily Census (ADC), Beds, and Occupancy, 1996-2006

Facility	ADC			Beds			Occupancy		
	1996	2001	2006	1996	2001	2006	1996	2001	2006
CONNECTCARE	144	0	n/a	220	6	n/a	65%	0%	n/a
ST JOHNS MERCY MED. CTR.	278	342	474	537	640	741	52%	53%	64%
ST MARYS HEALTH CTR.	218	190	300	327	258	559	67%	74%	54%
ST ANTHONYS MED. CTR.	313	231	267	485	428	425	65%	54%	63%
MISSOURI BAPTIST MED. CTR.	165	209	280	267	318	381	62%	66%	73%
ST LOUIS UNIV. HOSPITAL	234	183	238	280	273	297	84%	67%	80%
FOREST PARK HOSPITAL	179	120	94	423	355	178	42%	34%	53%
BARNES JEWISH HOSPITAL	43	35	57	105	88	86	41%	40%	66%
Average (not including ConnectCare)	204	187	244	346	337	381	59%	56%	64%

Source: CMS' Fiscal Year PPS Impact Files

Note: Occupancy is calculated as Average Daily Census (ADC) divided by Beds.

The community effects of the hospital closures in St. Louis and elsewhere appear mixed. In their study of Los Angeles County, Buchmueller et al. (2005) found that urban hospital closures have both positive and negative effects on the health indicators in a community. Specifically, the increased distances to hospitals and ERs appears to encourage greater use of primary care venues. Bovbjerg et al. note similar effects in Milwaukee and Tampa (and to some extent in Boston). However, the increased distance to hospital facilities may lead to increased morbidity and mortality among patients with unintentional injuries or suffering heart attacks. Additionally, both Buchmueller and Sheffler et al. (2001) note that many uninsured individuals may forego needed preventive or primary care because of increased travel distances (potentially exacerbated by public transit system limitations).⁶⁴

Fortunately, some negative effects of such closures may be transient in nature. In their study of the closure of nine of 80 inpatient facilities in Los Angeles County between 1998 and 2004, Sun

⁶⁴ This concern notwithstanding, DHSS OIG noted that more than 90 percent of patients of closed urban hospitals could access hospital care within 10 miles.

et al. (2006) concluded that the closures led to a “significant but temporary surge” in ambulance diversion hours at the nearest emergency room – but that “diversion hours normalize after several months.”

AGE AND SEX DEMOGRAPHICS OF ST. LOUIS

The population for the city of St. Louis (348,189 in 2000) decreased by over 12 percent during the 1990s. This steady loss of population appears to have abated in the last few years, though the Census Bureau estimates the 2005 population to have been 344,362.⁶⁵

The composition of St. Louis’ population has shifted since 1990. While the racial make-up and sex ratio has remained roughly constant, the age distribution has changed substantially, particularly during the last five years. As the data in Table 11 indicate, the following groups comprise a smaller proportion of St. Louis’ 2005 population relative to the 2000 census:

- minor children;
- residents over age 65; and
- persons of working age who report having a disability.

Thus, a lower proportion of St. Louis residents are likely to meet the categorical eligibility requirements for either Medicaid or Medicare.

The household characteristics for St. Louis have also changed over time. Roughly 44 percent of households in 2005 were individuals living alone, which is an increase from just over 40 percent in 2000.⁶⁶ This contrasts with the roughly 27 percent of households in Missouri that were similarly constituted; the statewide proportion remained relatively constant between 2000 and 2005.⁶⁷

⁶⁵ US Census Bureau, Population Estimates Program. Citing Census data, the Associated Press reported in 2004 that, “St. Louis had a greater percentage population loss than other sizable cities between the April 2000 headcount and July 2003 -- steeper rates of decline than Cincinnati, Detroit, Baltimore and Cleveland.” Southeast Missourian. “Census stats show loss of population in St. Louis.” Southeast Missourian Online, June 24, 2004, <http://www.semissourian.com/story/140297.html>. For reference, the Census Bureau estimates that the population of St. Louis County (estimated to be 1,004,666 in 2005) decreased by about one percent since 2000.

⁶⁶ US Census Bureau, St. Louis City, Missouri. “Population and Housing Narrative Profile: 2005.” <http://factfinder.census.gov>.

⁶⁷ US Census Bureau. General Demographic Characteristics: 2005 - Missouri. American Community Survey; DP-1. Profile of General Demographic Characteristics: 2000 (from US Census).

Table 11: Demographic Data for St. Louis City

	1990	2000	2005
under 18	25.2%	25.7%	17.9%
65+	16.6%	13.7%	11.7%
85+	2.1%	2.1%	1.4%
Median Age		33.7	35.4
Female	54.4%	53.0%	53.2%
Black*	47.5%	51.2%	50.6%
White*	50.9%	43.8%	44.3%
16-64 with any disability		24.3%	16.3%

* Aggregate estimates presented for 1990; estimates excluding individuals reporting more than one race excluded for 2000 and 2005.

Sources: U.S. Census Bureau, 2005 American Community Survey, 1990 and 2000 Censuses of U.S. Population.

POVERTY

The proportion of St. Louis' population in poverty has been static over time. In 2005, more than one-quarter of St. Louis residents, including more than one-third of African-Americans, lived below the federal poverty level.⁶⁸ This closely approximates the Census Bureau's estimates of the proportion of St. Louis residents in poverty in both 1989 and 1999.^{69,70} As noted earlier, St. Louis has an increasing proportion of able-bodied, non-elderly adults living in the city. The fraction within this group in poverty did not change substantially between 2000 and 2005.⁷¹

While the proportion of St. Louis residents in poverty has remained relatively constant, the spatial concentration has not. During the 1990s, poverty in the St. Louis metropolitan area became much less geographically concentrated. Between 1990 and 2000, the population living in high-poverty neighborhoods⁷² decreased by over 35 percent.⁷³ The change was particularly

⁶⁸ U.S. Census Bureau, 2005 American Community Survey.

⁶⁹ U.S. Census Bureau, 1990 and 2000 Censuses of U.S. Population and Housing. The Census Bureau estimates that a slightly higher percentage of African-Americans, or 37 percent, was living in poverty in 1989.

⁷⁰ By comparison, the poverty rate for both the United States and Missouri in 2005 was about 13 percent, and the poverty rates for Baltimore, Maryland, Memphis, Tennessee and Oakland, California were approximately 23, 24 and 18 percent, respectively. U.S. Census Bureau, 2005 American Community Survey

⁷¹ Poverty among this group appears to have increased slightly between 2000 and 2005 (from 20.9 to 21.9 percent, respectively). However, the 2005 estimate has a margin of error of ± 2.3 percent. U.S. Census Bureau, 2005 American Community Survey.

⁷² A census tract is classified as "high poverty" if 40 percent or more of its residents are below the federal poverty level.

⁷³ Jargowsky, Paul A. "Stunning Progress, Hidden Problems: The Dramatic Decline of Concentrated Poverty in the 1990s." Brookings, Washington, DC, p 6, May 2003,

notable among African-Americans, 23.8 percent of whom lived in high poverty neighborhoods in 2000, compared to 39.1 percent in 1990. The number of high poverty census tracts in the St. Louis metropolitan area also declined from 39 to 26 during this period.⁷⁴

PREVALENCE OF HEALTH INSURANCE

In 2000, about 18.8 percent of St. Louis residents were uninsured, including 15.5 percent of children under 18.⁷⁵ By way of comparison:

- Twelve percent of all Missourians and 8.9 percent of Missouri children were uninsured in 2000.⁷⁶ Evidence from 2003-2005 suggests that this number may be increasing slightly.⁷⁷ Urban areas in Missouri (St. Louis and Kansas City) have a higher proportion of residents with employer-sponsored insurance (ESI).⁷⁸ As noted earlier, ESI has been declining in Missouri over the past several years – and the impact has been comparatively greatest among lower-income, urban individuals and higher-income residents outside large cities.⁷⁹
- The District of Columbia, a city of similar size and demographic composition to St. Louis,⁸⁰ had an uninsured rate of 14.4 percent in 2000 (11.9 percent for children under age 18).⁸¹ The average uninsured rate for the period 2003-2005 was 13.1 percent.⁸²

<http://www.brookings.edu/es/urban/publications/jargowskypoverty.htm>. Among all racial/ethnic groups, 13.0 percent lived in high poverty neighborhoods in 2000, compared to 20.5 percent in 1990.

⁷⁴ *Ibid*, 19. It is unclear whether this trend continued during the economic slowdown of the early part of this decade.

⁷⁵ For St. Louis County, the percentages are 8.1 and 5.7, respectively.

⁷⁶ US Census Bureau, Small Area Health Insurance Estimates by County, 2000 (released July 2005). For methodological and sampling reasons, estimates from the U.S. Census Bureau differ from other studies. McBride, Timothy. "Report 8: Comparison of Missouri Uninsurance Survey Data Sources." Missouri Foundation for Health, (2006), <http://www.mffh.org/ShowMe8-final.pdf>. For consistency purposes, we report data from the Census Bureau in the main text.

⁷⁷ US Census Bureau, Current Population Survey, 2004 to 2006 Annual Social and Economic Supplements. "Table 10: Percentage of People Without Health Insurance Coverage by State Using 2- and 3-Year Averages: 2003 to 2005." US Census Bureau. <http://www.census.gov/hhes/www/hlthins/hlthin05/hi05t10.pdf>.

⁷⁸ Interestingly, the statewide variations narrow considerably after adjusting for poverty status. See the table at Zuckerman, Stephen, Allison Cook. "Geographic Variations in Health Insurance: A Profile of Missouri: Cover Missouri Project: Report 8 (State Report)." The Urban Institute, p 8, 2006, <http://www.urban.org/publications/1001008.html>.

⁷⁹ Zuckerman and Cook 2006, 9. As Zuckerman and Cook note, increased Medicaid enrollment did not offset the loss in ESI – leaving a higher proportion of uninsured residents.

⁸⁰ The District is a useful comparison, too, because the US Census Bureau estimates the prevalence of health insurance in DC and other state-level jurisdictions on an annual basis.

⁸¹ U.S. Census Bureau, Small Area Health Insurance Estimates Program. "Experimental Small Area Health Insurance Estimates by State, 2000." US Census Bureau. July 21, 2005, <http://www.census.gov/hhes/www/sahie/data/est2000/sahie00st.xls>.; Lurie, Nicole, M.D., M.S.P.H., Michael Stoto Ph.D. "Health Insurance Status in the District of Columbia." Prepared under contract with the District of Columbia Primary Care Association. October 22, 2002, <http://www.dcpca.org/images/stories/docs/10-02RAND.DCPCAHealthInsuranceinDC.pdf>.

⁸² US Census Bureau, Table 10, <http://www.census.gov/hhes/www/hlthins/hlthin05/hi05t10.pdf>.

ACCESS TO CARE

Because the population demographics have shifted within St. Louis, the demand for safety net services remains high. Over time, a decreasing proportion of St. Louis residents appear to have employer-sponsored insurance (ESI) or are eligible for Medicaid or Medicare coverage (by virtue of age or disability).⁸³ Yet, the city's poverty rate remains high, suggesting that financial access to health care is limited. As a result, St. Louis residents may be increasingly reliant on the safety net for health care services. This reliance likely places an increasing strain on providers, which may be less able to subsidize or offset uncompensated care costs with revenues from commercial insurance, Medicaid, and Medicare.

In 2005, the Missouri Department of Health and Senior Services (DHSS) attempted to quantify the impact of these and other demographic factors on the state's safety net.⁸⁴ Based on the DHSS analysis, St. Louis had the highest composite index score in terms of demand for safety net services.⁸⁵ Even with (and perhaps because of) the substantial changes in the demographic composition of St. Louis' population, the safety net clearly continues to provide critical access to health services among the medically indigent.

Reviewing emergency room use (ER) and other factors,⁸⁶ DHSS also concluded that St. Louis had some of the largest barriers to access to primary and preventive care.⁸⁷ At the same time, DHSS noted that the metropolitan St. Louis area had the highest percentage of the vulnerable population served by safety net providers.⁸⁸ Consistent with this latter point, we found in our previous evaluation "a continuing trend towards more appropriate utilization of certain services by the indigent in St. Louis" in our 2005 analysis of ConnectCare and city-wide emergency room utilization.

⁸³ As noted earlier, a comparison of the 2005 and 2000 population estimates indicates that smaller proportions of St. Louis' residents are children under 19, disabled, or elderly. For these reasons, a declining number of St. Louis residents are likely eligible for Missouri Medicaid.

⁸⁴ The analysis included the percent of residents in poverty, the percent with a disability, and the density of the uninsured and Medicaid enrollees in each county. Department of Health and Senior Services. "Report on the Health Care Safety Net in Missouri, August 2005."

<http://www.dhss.mo.gov/DataAndStatisticalReports/HealthCareSafetyNet.pdf>.

⁸⁵ DHSS 2005, 26.

⁸⁶ The analysis ranked counties on prenatal care, preventable hospitalization, and ER use by uninsured and publicly insured, generating a composite index.

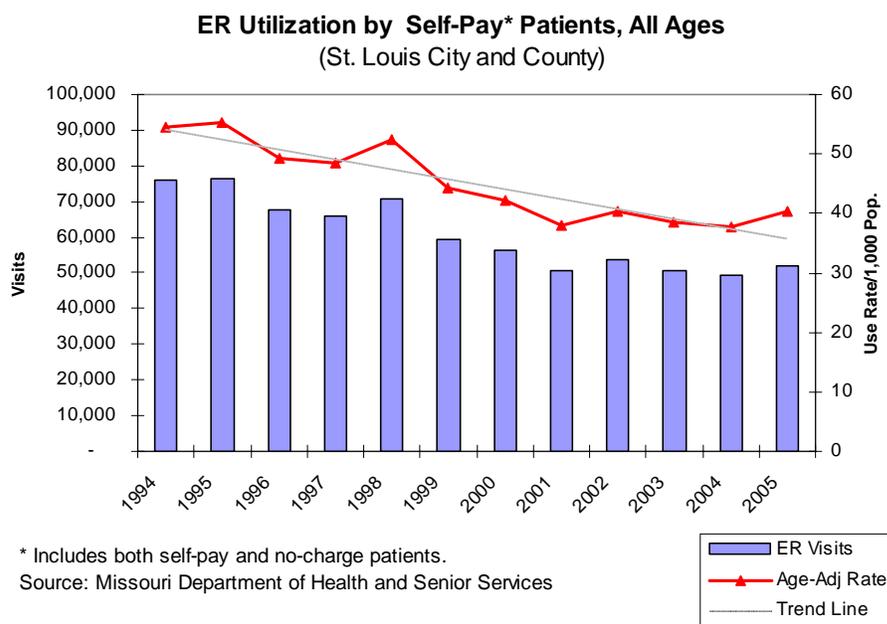
⁸⁷ (DHSS 2005, 77)

⁸⁸ (DHSS 2005, 25)

HEALTH CARE UTILIZATION

To more fully understand the utilization and care-seeking patterns of ConnectCare’s target population (i.e., the uninsured in St. Louis), we evaluated ER and inpatient hospitalization data for St. Louis City and County. As illustrated in Figure 25, ER utilization in St. Louis City and St. Louis County among “self pay/no charge” patients trended downward between 1994 and 2004. Indeed, the rate of ER visits per 1,000 residents fell by 26 percent over the 11-year period – and the overall decrease in ER use among the “self-pay” or uninsured population in St. Louis is larger than the seven percent change among all patients (regardless of payer).⁸⁹ Still, it is of concern that the rate of ER utilization among self-pay patients ticked upward in 2005.⁹⁰

Figure 25

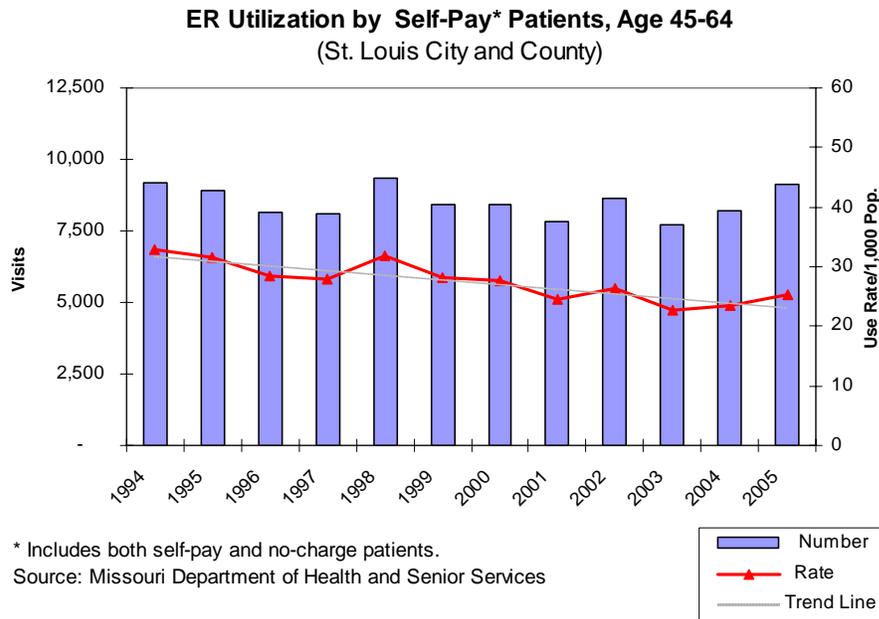


⁸⁹ In 2005, though, both the total number of ER visits and the utilization rate among “self-pay/no-charge” patients increased by about five and seven percent, respectively from the prior year. While ER use also increased among Medicare and commercial insurance patients, the increase among the self-pay population was comparatively larger. It is unclear whether this is an anomaly or indicative of a new trend. This change may also be due, at least in part, to a patient shift from Medicaid (in which the population has a comparatively higher rate of ER use) to the uninsured. The yearly rates of ER use for the self-pay and the Medicaid population are negatively correlated, and this negative relationship has become more pronounced in recent years. Perhaps not surprisingly, the Medicaid rate of ER utilization fell in 2005, just as the rate was increasing for the uninsured.

⁹⁰ Looking more broadly at the ER utilization rate for all patients, a similar (though not as dramatic) decrease is evident between 1999 and 2004, with the rate falling by about six percent. Interestingly, the ER utilization rate decreased for almost all other payers except Medicaid, for which the rate increased by about 27 percent over the five-year period. We should note that the ER utilization rate for all payers was quite different for the period prior to the implementation of the Waiver: the aggregate rate increased substantially between 1996 and 1999 after having declined for the previous several years. It is unclear what may have caused this earlier spike in utilization.

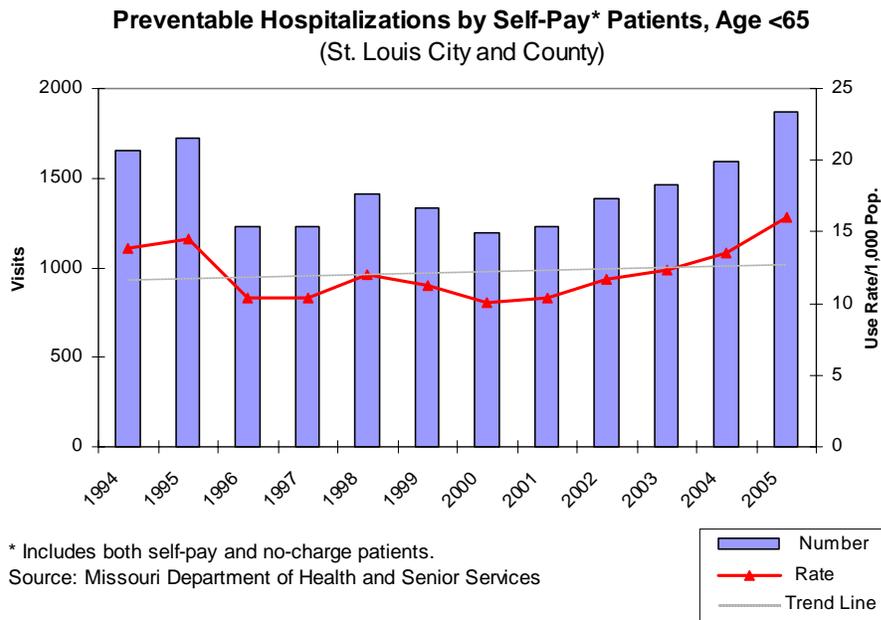
The same general pattern of historical utilization is discernible among self-pay patients age 45-64 (Figure 26). Because of their age, these patients are more likely to suffer from chronic illnesses – and thus, more apt to benefit from ConnectCare primary care, early intervention, and preventive services. Despite the general trend downward between 1994 and 2003, though, the rate of ER utilization has been increasing slightly in this population for the past two years.

Figure 26



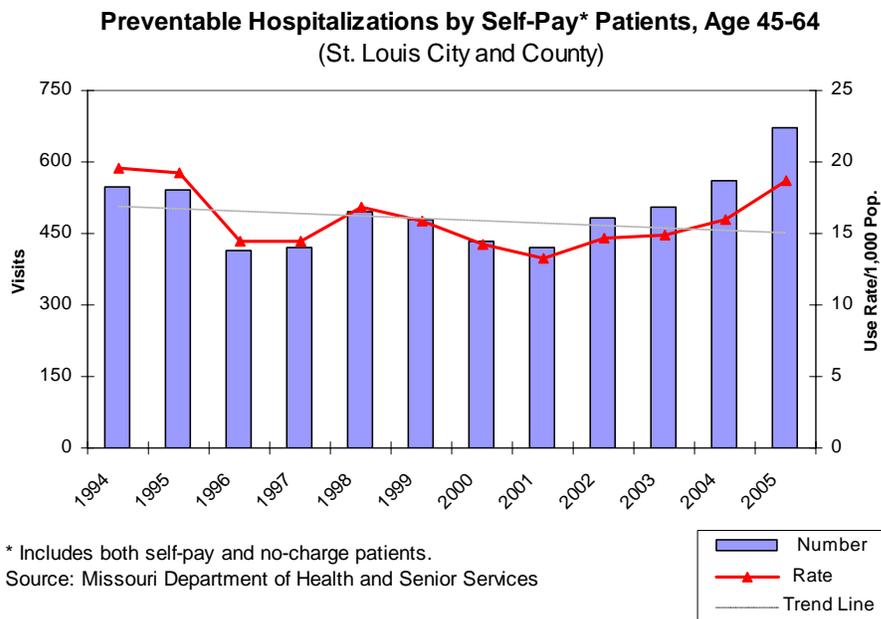
The rate of preventable hospitalizations among self-pay patients, though, has trended consistently upward since 2000 (Figure 27). Indeed, it has increased almost 60 percent during the last five years of the study period.

Figure 27



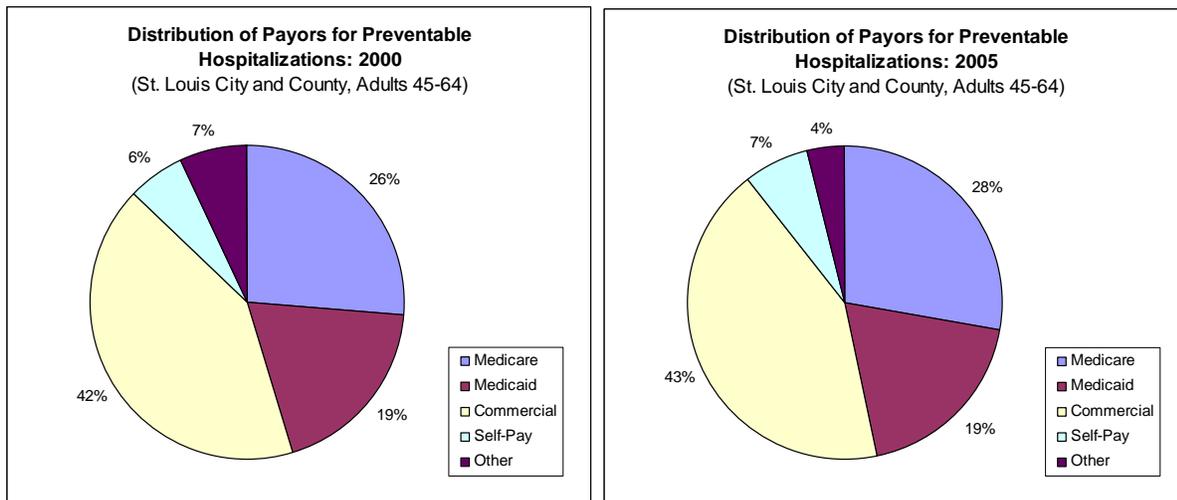
While the 11-year trend among self-pay patients age 45-64 show a marginal decrease in preventable hospitalizations, the more recent increases have all but erased the earlier progress in reducing these inpatient events. Since 2000, the rate of preventable hospitalizations within this group has increased some 32 percent.

Figure 28



Interestingly, the distribution of payers for preventable hospitalizations remained relatively constant during the recent period (Figure 29). This finding is somewhat surprising given the declining prevalence of Medicaid and other payers in St. Louis.⁹¹

Figure 29



SUMMARY AND CONCLUSIONS

The demographics of St. Louis have changed dramatically since the inception and implementation of ConnectCare. Relative to the 1990's, the city is less populated and more economically disadvantaged. Additionally, proportionately fewer residents are under 21 or 65 or older – suggesting that a lower fraction of St. Louis citizens may be eligible for Medicaid and Medicare. In part for these reasons, DHSS concluded St. Louis residents are increasingly relying on safety net providers for care.

The implementation of ConnectCare did not precipitate a notable shift in ER or inpatient utilization. Rather, since 1994 the rate of ER utilization among self-pay residents of St. Louis City and County has been on a generally consistent, downward trend (at least until 2005). In contrast, the rate of preventable hospitalizations for this population has been increasing since 2000.

⁹¹ This may in part be the result of aggregating St. Louis City and County.

Given the substantial changes to the city's population and its shifting health care needs, it is difficult to characterize ConnectCare's performance over this period. The program is not an unqualified success – but nor is it by any means a failure. To the extent that ConnectCare can continue to reduce the number of uninsured without access to care – and arrest the growth in avoidable hospitalizations among this population – it will make a lasting contribution to the physical health of St. Louis residents. In so doing, it will help sustain St. Louis' health care safety net on which so many residents now rely.

RESEARCH QUESTION 6: HAVE COST-SHARING REQUIREMENTS FOR HIGHER INCOME POPULATIONS IN THE 1115 WAIVER RESULTED IN ANY NEGATIVE IMPACTS AS MEASURED BY INDIVIDUAL HEALTH AND ACCESS TO HEALTH CARE?

Although there has been cost-sharing for higher income populations in the 1115 Waiver since the program's inception, this is the first year that this research question has been included in the 1115 Waiver evaluation. To answer this research question we will examine the trends in enrollment numbers during both this evaluation period as well as previous periods. Because there is limited research focusing on Missouri specifically, we will analyze the enrollment trends in collaboration with national research and studies on access to health care services and the effect on health status as well as research focusing on other states that have increased or implemented cost-sharing into their programs. The discussion will focus on premiums only as co-payments were not required for any population during this evaluation period. In addition, the discussion will focus on children since the only adult population eligible for the 1115 Waiver expansion during this evaluation period was uninsured women losing their Medicaid eligibility 60 days after the birth of their child.

1115 WAIVER EXPANSION ENROLLMENT

Prior to September 1, 2005, 1115 Waiver expansion children were divided into three categories:

- Those with no co-pay and no premium responsibilities (expansion families with incomes less than 185 percent of the FPL);
- Those with co-pay but no premium responsibilities (expansion families with incomes at or between 186 percent and 225 percent of the FPL); and
- Those with co-pay and premium responsibilities (expansion families with incomes at or between 226 percent and 300 percent of the FPL).

Effective September 1, 2005, there are two categories of children:

- Those with premium responsibilities of 1 percent, 3 percent, or 5 percent of income (expansion families with incomes greater than 150 percent of FPL); and
- Those with no premium responsibilities (expansion families with incomes equal to or less than 150 percent of FPL).

This change has effected a large group of enrollees—primarily those with incomes between 150 percent and 185 percent of FPL who had no premium responsibility and those with incomes

between 186 percent and 225 percent of FPL who had co-pay responsibility but no premium responsibility.

Table 12 below shows the enrollment numbers, by eligibility category, in the 1115 Waiver expansion during the period from September 2005 – August 2006.

Table 12

September 1, 2005 – August 31, 2006⁹²			
	Non-Premium	Premium	Total
September 2005	88,414	3,639	92,053
October 2005	43,154	31,263	74,417
November 2005	42,968	31,149	74,117
December 2005	43,250	29,248	72,498
January 2006	43,692	27,560	71,252
February 2006	43,784	25,931	69,715
March 2006	41,619	23,503	65,122
April 2006	41,713	22,576	64,289
May 2006	42,146	21,824	63,970
June 2006	42,548	21,150	63,698
July 2006	42,771	20,762	63,533
August 2006	43,708	20,995	64,703

Note: In September 2005 the number of people in the Non-Premium count includes all individuals who had not previously been responsible for premiums (so with incomes less than 225 percent of FPL). Beginning in October 2005 the count of people in the Non-Premium includes only those not responsible for premiums moving forward (so with incomes less than 150 percent of FPL); those with incomes between 150 percent and 226 percent were counted in the Premium category.

It is clear, based on these numbers that the increases in cost-sharing requirements have reduced the numbers of children enrolled, from just over 92,000 children (a number similar to the enrollment number for the past several years) to under 66,000 children—a decrease of nearly one-third. It is also clear that much of this decrease was a result of declines in the number of children enrolled whose parents had premium responsibilities. That is, once the definition of Non-Premium included only those with incomes less than 150 percent of poverty, the number is quite stable at around 43,000 enrollees. In contrast, the number of children with

⁹² MO DSS. Monthly Management Reports.

premium responsibility steadily decreased each month until August, 2006 when there was a slight increase. It is notable that previous to this change, enrollment in the 1115 Waiver expansion had been increasing each year, though the rate of increase over the past three evaluation periods was small.

These declines in enrollment are not unexpected. As mentioned in Research Question 1, several studies have documented that as premiums increase in SCHIP programs the number of enrollees decreases. Authors Ku and Coughlin estimated that premiums set at 1 percent of family income led to a 15 percent reduction in enrollment; premiums set at 3 percent of family income were estimated to reduce enrollment by as much as half.⁹³ In 2005, researchers Shenkman and Vogel looked at the effect premium increases had on enrollment in Florida's SCHIP program. They found a price elasticity (an estimate of responsiveness to changes in price of goods and services) for disenrollment of 2.2, meaning that a 10 percent increase in the monthly premium would produce a 22 percent increase in the probability of disenrollment.⁹⁴ More recently, researchers using national data from 1996 to 2003 found that higher premiums for public programs are significantly associated with lower probability of public coverage.⁹⁵ Finally, using data from the 2000 to 2004 Current Population Survey, researchers employed several logistic models and concluded that raising public premiums reduces enrollment in public programs.⁹⁶

In addition to research conducted at the national level, researchers conducting studies on individual states that also increased premiums have found changes similar to those experienced by Missouri. Notably:

- In February 2003, Oregon increased premiums for its Medicaid expansion program; about half of those enrolled—approximately 50,000 people—lost coverage.⁹⁷
- In 2004 and 2005, Texas made several changes to its program, including establishment of a 90-day waiting period, higher premiums for families with incomes between 101 and

⁹³ Ku & Coughlin (Winter 1999-2000) cited in Ku & Wachino (July 7, 2005).

⁹⁴ Shenkman & Vogel (June 2005) cited in Ku & Wachino (July 7, 2005).

⁹⁵ Jack Hadley, James D. Reschovsky, Peter Cunningham, Genevieve Kenney, Lisa Dubay, "Insurance Premiums and Insurance Coverage of Near-Poor Children." *Inquiry* 43 (Winter 2006/2007): 362-377.

⁹⁶ Genevieve Kenney, Jack Hadley, Fredric Blavin, "Effects of Public Premiums on Children's Health Insurance Coverage: Evidence from 1999 to 2003." *Inquiry* 43 (Winter 2006/2007): 345-361.

⁹⁷ Ku & Wachino (July 7, 2005).

150 percent of FPL and higher co-payments. Since those changes, enrollment has dropped by 149,000 children—a 29 percent decline.⁹⁸

- Following changes to its program, researchers for the State of Wisconsin conducted an analysis of the impact of premiums on BadgerCare by examining enrollment data and conducted telephone surveys of eligible families (both enrolled and non-enrolled) and mail surveys of premium paying families that disenrolled. They concluded that premiums were a reason for disenrollment and do appear to be a significant contributing factor to turnover. In particular they found that:
 - The primary reason respondents gave for leaving BadgerCare was a “premium-related reason” (26 percent); among those who left because of problems paying premiums, 40 percent said they could not afford the premium and an additional 34 percent said they could not get it paid on time;
 - Premium-paying families were less likely to re-enroll in the first two years but were as likely to re-enroll in the third year;
 - Although premiums were a deterrent to enrollment they were not the primary reason for the majority: 10 percent of eligible non-enrollees cited premiums as the primary reason for not enrolling;
 - However, 83 percent of premium paying families reported that premium amounts were reasonable.⁹⁹
- Premium increases implemented in 2003 in New Hampshire and Kentucky were associated with lower enrollment numbers. In New Hampshire caseload growth rates during the six months prior to premium increases were 19.3 percent and only 1.0 percent during the six months period after premium increases. In Kentucky growth rates during the six months prior to implementation of the premium were .3 percent and -18.2 percent during the six months after implementation.¹⁰⁰

⁹⁸ Anne Dunkelberg, Molly O'Malley, “Children’s Medicaid and SCHIP in Texas: Tracking the Impact of Budget Cuts.” Washington, DC: Kaiser Commission on Medicaid and the Uninsured, July 2004.

⁹⁹ Nathan West, “The Impact of Premiums on Wisconsin’s BadgerCare Program.” Presentation at the AcademyHealth Annual Research Meeting, June 8, 2004.

¹⁰⁰ Genevieve Kenney, R. Andrew Allison, Julia F. Costich, James Marton, Joshua McFeeters, “Effects of Premium Increases on Enrollment in SCHIP: Findings from Three States.” *Inquiry* 43 (Winter 2006/2007): 378-392.

Finally, it is clear from conversations with DSS staff that they expected the number of children enrolled to decline. Additionally, budget documents analyzing the premium changes proposed in SB 539, indicate that both the Legislature and the DSS expected some loss of coverage.¹⁰¹

ACCESS TO HEALTH CARE SERVICES AND THE IMPACT ON HEALTH STATUS

Given the not unexpected decline in enrollment in the 1115 Waiver expansion eligibility categories, the next step is ascertaining what, if any, the effect is on access to health care services and the health status of uninsured individuals. Almost universally, research suggests that lack of insurance is directly related to impaired access and lower utilization of health care services. For example,

- Thirty-three percent of uninsured children—compared to 12 percent of those with insurance—went without any medical care for the entire year;¹⁰²
- Uninsured children were much more likely to have **not** received a well-child checkup within the past year—48 percent compared to 26 percent. Specifically, as it relates to uninsured low-income children, 52 percent of those without insurance failed to get a well-child check-up, almost twice the rate—27 percent—for insured low-income children;
- 26 percent of uninsured children lack a usual source of care while only 3 percent of children with insurance do. Specifically as it relates to low-income children, almost one in three uninsured low-income children lack a usual source of care—almost eight times the rate for insured low-income children.¹⁰³

Not surprisingly, this impaired access and lower utilization of health care services has been shown to have an effect on the health status of uninsured individuals. Uninsured individuals are less likely to receive preventive care than those with insurance and they are more likely to be hospitalized for conditions that could have been avoided with earlier treatment.¹⁰⁴ Notably as it relates specifically to children:

¹⁰¹ Budget documents analyzing the House version of SB 539 and Department of Social Services, Medicaid Caseload Reductions SB 539 and Budget Actions through TAFP cited in Joel Ferber, September 2006.

¹⁰² Robert Wood Johnson Foundation (RWJ), State Health Access Data Assistance Center (SHADAC) and Urban Institute, “Going Without: America’s Uninsured Children.” August 2005.

¹⁰³ The Urban Institute, “Key Findings from the 2002 National Health Interview Survey: Access to Care among Uninsured and Insured Children: Well-Child Checkups, Usual Source of Care and Unmet Needs.” Undated.

¹⁰⁴ Kaiser Commission on Medicaid and the Uninsured, “The Uninsured and Their Access to Health Care.” October 2006.

- Only 20.8 percent of uninsured children reported an improvement in their health status during the past 12 months compared to 27.6 percent for children with Medicaid and SCHIP and 19.6 percent for children with private insurance;¹⁰⁵
- 16 percent of uninsured children experienced an unmet need for medical care compared to three percent for children with insurance;¹⁰⁶
- Uninsured children admitted to the hospital due to injuries were twice as likely to die than children with insurance. In Missouri, this rate was 2.5 times more likely;
- Uninsured children were 44 percent less likely to be discharged to rehabilitative care than insured children. In Missouri, this rate was 36 percent less likely; and
- Uninsured children admitted to the hospital with middle ear infection were less than half as likely to get ear tubes inserted than insured children.¹⁰⁷

Despite the research discussed above, there are several mitigating factors in Missouri that make it less clear that premiums have had a negative effect on either (1) access to health care services of 1115 Waiver expansion children who are eligible but not enrolled or (2) their health status. This is not clear for several reasons:

- One, according to key DSS staff, once a child becomes sick and needs health care services, the family often finds a way to pay the premiums. In this scenario, the only children that would have a barrier to enrolling at the time of need are those without special healthcare needs in families with incomes greater than 225 percent of FPL. Children from families with incomes greater than 225 percent of FPL are subject to a 30-day waiting period with eligibility commencing either 30 days from the date of application (if the premium is paid during this time) or the date of receipt of the premium. In addition, these children are also subject to a six-month penalty for previous non-payment of premiums. However, there are actually very few children who fall into this category. Although the State no longer reports this group as an individual category, during previous evaluation periods the monthly enrollment of children in this highest income group have been between 2,500 and 3,500. It is important to note, however, that had such children received appropriate preventive health care services the illness might have been prevented.

¹⁰⁵ Leighton Ku, Nimalendran Sashi, "Improving Children's Health: A Chartbook About the Roles of Medicaid and SCHIP." Center on Budget and Policy Priorities, January 2004.

¹⁰⁶ The Urban Institute, ND.

¹⁰⁷ Families USA, "The Great Divide: When Kids Get Sick, Insurance Matters." 2007.

- Two, it can not be said with certainty that disenrolled or not enrolled children did not receive health care services at community health centers (CHCs) or other safety net providers.

SUMMARY AND CONCLUSIONS

During this evaluation period, September 1, 2005 – August 31, 2006, it is clear that premium payments did have a negative effect on access to the 1115 Waiver expansion. As described, however, it is not clear that this has resulted in any changes in individual health and access to care for those children. Moreover, as the Wisconsin experience suggests, it is possible that the high rates of disenrollment will end in two to three years and in future years enrollment in the premium categories may increase. In fact this has already occurred; enrollment numbers for August—the final month of this evaluation period—were higher than in previous months. For future evaluations we recommend the State again examine the enrollment trends. In addition, we recommend conducting an analysis to see if there are differences in health care utilization rates for groups with premiums compared to those without premium responsibilities.

RESEARCH QUESTION 7: HAS THE LACK OF NON-EMERGENCY MEDICAL TRANSPORTATION (NEMT) HAD ANY NEGATIVE IMPACT AS MEASURED BY INDIVIDUAL HEALTH AND ACCESS TO HEALTH CARE?

The Missouri 1115 Demonstration project is relatively unique in that CMS granted the State a waiver allowing it to exclude NEMT services from its benefit package provided to 1115 Waiver expansion enrollees. This is one of the few such waivers that CMS has granted to date.¹⁰⁸

As a part of this evaluation, the State asked us to assess the extent to which the lack of NEMT services may affect access to and utilization of health care services among 1115 Waiver expansion enrollees. Fortunately, we have a ready comparison group because NEMT services remain a mandatory covered service for the Medicaid population.¹⁰⁹ However, we should note from the outset that the state changed vendors for NEMT services within the Medicaid fee-for-service (FFS) program. This transition to a new NEMT contractor likely affected the provision of NEMT services to Medicaid enrollees and their resulting NEMT utilization (see summary of related events below).

For reference, we begin this section with a review of the chronology of events leading up to the November 2005 transition to a new NEMT vendor (Logisticare), which now serves as the NEMT broker for FFS enrollees. We then report the results of our analysis of NEMT utilization data for both Medicaid FFS and MC+ managed care enrollees for the study period. Finally, we report the results from our dialogue with enrollees and providers regarding the enrollees' need for NEMT services and related experiences.

BACKGROUND

As noted, Missouri has undergone a substantial transition with the provision of NEMT services to its Medicaid FFS enrollees. This fact partly limits our ability to draw sound inferences from year-on-year comparisons of NEMT utilization. It also may explain the observed levels of utilization that we report herein.

¹⁰⁸ For further information on state coverage of NEMT services, please see Betit, Rod L. "Background on Utah's New Medicaid Waiver." Utah Department of Health, May 2, 2002, <http://www.statecoverage.net/statereports/ut2.pdf>.

¹⁰⁹ Please note that the Medicaid and 1115 Waiver expansion populations are qualitatively different in some respects, which limits inferences drawn from any comparative analysis (i.e., the populations are not clearly "apples-to-apples" comparisons).

To provide context for our findings (and reports from other sources), we provide a summary of recent events related to NEMT services in Missouri Medicaid. From 1997 to August 2005, Missouri contracted for NEMT services with MTM, Inc. under successive fee-for-service agreements.¹¹⁰ On October 5, 2005, the State announced that LogistiCare had won the new NEMT contract, which involved a capitated arrangement.

The State subsequently renewed Logisticare's contract through June 30, 2007, and the contract has options extending until June 30, 2008.¹¹¹ While MTM may not have the Medicaid FFS contract for NEMT in Missouri, it apparently remains a provider of NEMT services to several Medicaid MCOs within the state.¹¹²

ANALYSIS OF UTILIZATION DATA

To answer the NEMT research question, we calculated the utilization of NEMT services for a subset of Medicaid enrollees. Similar to our approach in Research Question 2, we limited the populations of children to those in specific Medicaid eligibility (ME) codes.¹¹³ In order to define the scope of NEMT services, we used a series of HCPCS procedure codes, which we include as Appendix III. We then assessed the utilization of these services among children who (a) were continuously eligible for 12 months; (b) were age 12 or under; and (c) had no third-party coverage (i.e., private or other insurance).

We applied these three selection criteria for two key reasons. First, we wanted to report the NEMT utilization from a population that had the maximum opportunity to use NEMT services – and we wanted to easily control for duration of enrollment in the program. For these reasons, we imposed criterion (a) and excluded children with breaks in eligibility. Second, we wanted to assess the utilization of a relatively homogenous population. Accordingly, we imposed criteria (b) and (c) and excluded children of or approaching reproductive age as well as those who also had other insurance coverage.

¹¹⁰ For reference, the Medicaid agency moved to a month-to-month contract with MTM in June 2004.

¹¹¹Thimangu, Patrick L. "LogistiCare lands Medicaid transportation contract." *St. Louis Business Journal*, October 5, 2005, <http://stlouis.bizjournals.com/stlouis/stories/2005/10/03/daily50.html>.; News Release Wire. "LogistiCare Earns Missouri Contract Renewal for Medicaid Non-Emergency Medical Transportation." News Release Wire Online, April 24, 2006, <http://www.expertclick.com/NewsReleaseWire/default.cfm?Action=ReleaseDetail&ID=12410>.

¹¹² Brady, Kathleen T. "Missouri's snub of medical transport company's bid may not add up." *Daily Record and the Kansas City Daily News-Press*, Nov 12, 2005, http://findarticles.com/p/articles/mi_qn4181/is_20051112/ai_n15841654.

¹¹³ The 1115 Waiver expansion group includes children with eligibility codes 71, 72, 73, 74, and 75. The comparison group includes children with eligibility codes 06, 40, 43, 44, 45, 61, 62, and 87. Please note that children in several additional ME codes were included in our analyses for Research Question 2.

Of 610,161 total Medicaid and 1115 Waiver expansion enrollees in the program during the study period, 253,745 Medicaid and 1115 Waiver expansion enrollees met the inclusion criteria. This equates to 228,411 Medicaid enrollee years and 25,334 Waiver expansion enrollee years.¹¹⁴ Of the children in this cohort, 7,544 Medicaid enrollees (approximately three percent of all Medicaid enrollees in this cohort) used NEMT services at some point during the study period.¹¹⁵ As Table 13 reflects, Missouri Medicaid provided a total 22,463 NEMT trips for these children.

Table 13: NEMT Utilization among Medicaid Enrollees

Age Group	Female		Male		Total Medicaid	
	Medicaid Enrollees Using Service	Total Trips	Medicaid Enrollees Using Service	Total Trips	Enrollees Using Service	Total Trips
<1	549	1,761	653	2,145	1,202	3,906
1-5	1,698	4,549	1,900	5,635	3,598	10,184
6-12	1,279	3,974	1,465	4,399	2,744	8,373
Total	3,526	10,284	4,018	12,179	7,544	22,463

Source: DMS *ad hoc* data request, May 25, 2007.

As Table 14 illustrates, the utilization of NEMT services does not appear to be strongly related to the age or sex of these children. Infants are slightly more likely to use NEMT services when compared to older children: the average number of NEMT trips for infants was 15 percent and six percent higher, respectively, relative to the average number of NEMT trips for children ages 1-5 and 6-12 (calculations not shown). The average NEMT utilization for males was only about four percent higher than for female children, and no substantial differences appear when comparing the average rate for each sex within each of the age groups.¹¹⁶

Table 14: Average NEMT Trips per Medicaid Enrollee (NEMT Users only)

Age Group	Trips per Medicaid Enrollee		
	Females	Males	All
<1	3.21	3.28	3.25
1-5	2.68	2.97	2.83
6-12	3.11	3.00	3.05
Total	2.92	3.03	2.98

Source: DMS *ad hoc* data request, May 25, 2007.

¹¹⁴ A few enrollees had 12 continuous months of eligibility, though they were enrolled in Medicaid during part of the period and 1115 Waiver expansion for the balance. Thus, we calculate and report “enrollee years” instead of “enrollees.”

¹¹⁵ It should be noted that 145 NEMT trips were provided to some 88 enrollees during periods of enrollment in ME codes for the 1115 Waiver expansion (i.e., ME codes 71-75). The vast majority of these trips were provided by MCOs rather than through the FFS system (data not shown). Eleven of these 88 users also used NEMT services during periods of enrollment in ME codes for Medicaid. For reference, the data for the 11 users is included in the table above.

¹¹⁶ Due to data limitations, these calculations are not controlled for duration of FFS or managed care enrollment. For this reason, we can only draw tentative inferences from these data.

As is shown in Table 15 below, the use of NEMT services does appear to be related to the service delivery system.¹¹⁷ For example, the number of NEMT trips among one- to five-year old children during months of fee-for-service enrollment was 62 percent of the average number during months of MC+ managed care enrollment.¹¹⁸

Table 15: Medicaid NEMT Trips per Medicaid Enrollee Year (All Medicaid Enrollees)

Age Group	FFS	Managed Care	Rel. Util.: FFS/Man Care.
1-5	0.07	0.11	0.62
6-12	0.06	0.09	0.70

Source: DMS *ad hoc* data request, May 25, 2007.

Additionally, the NEMT utilization among Medicaid enrollees (both FFS and MC+ managed care) appears to have been infrequent and/or episodic. As Tables 16 and 17 below show, the median NEMT utilization among all users was two trips. Almost 80 percent of users had three or fewer trips during the study period, and less than three percent of users had more than 12 trips during the year-long study period.

Tables 16 and 17 Summary Statistics for NEMT Utilization

Summary Statistics	Trips	NEMT Trips	Medicaid Enrollees	% of Medicaid Enrollees	Cumulative Total
Minimum	1	1	3,722	49.3%	49.3%
Maximum	10	2-3	2,253	29.9%	79.2%
		4-7	1,058	14.0%	93.2%
25th Percentile	1	8-12	315	4.2%	97.4%
Median	1	13-24	127	1.7%	99.1%
75th Percentile	2	25-49	58	0.8%	99.9%
		50+	11	0.1%	100.0%
Mean	1.76	Total	7,544	100.0%	

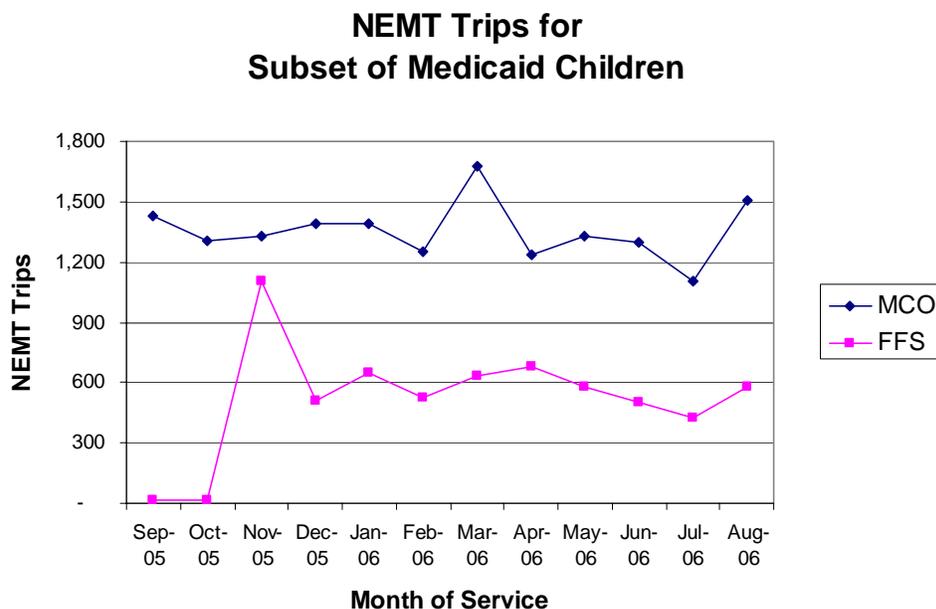
Source: DMS *ad hoc* data request, May 25, 2007.

¹¹⁷ The rate for infants is not reported in Table 15. In the preceding table, the numerator was all NEMT trips associated with children who were less than age 1 as of September 1, 2005, and the denominator was the corresponding number of such children. For this table, the numerator is the same, but the denominator (obtained from DMS) appears to be all enrollment months for children of the age in question as of that month. This definitional difference skews the comparisons by lowering the denominator and therefore inflating the NEMT utilization rate for infants. While the same phenomenon affects the other denominators for the rates reported in Table 15, the effect is mitigated by the relatively larger or more comparable age ranges (i.e., 1-5 and 6-12).

¹¹⁸ As we anticipated, the rates within each service delivery system did not vary dramatically when stratified by sex (data not shown).

As is shown in Figure 30 below, the monthly number of trips remained relatively stable over the study period. The utilization spike among Medicaid FFS enrollees in November 2005 was presumably due to pent-up demand. Between December 2005 and August 2006, NEMT utilization trended downward slightly.

Figure 30



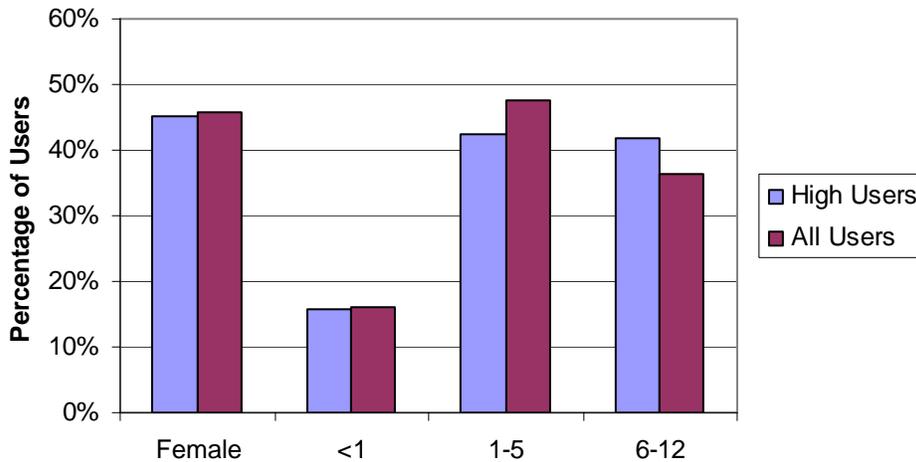
Source: DMS *ad hoc* data request, May 25, 2007.

Of the 195 “high users” in the Medicaid system (i.e., those with more than 12 NEMT trips), the age and sex distribution was similar to the total population of 7,544 NEMT users.¹¹⁹ This is illustrated in Figure 31 below. It is worth noting that 62 percent of the NEMT trips among the enrollees were during periods of fee-for-service enrollment. This contrasts with the data in Table 14, which reports higher NEMT utilization per enrollee year in MC+ managed care relative to fee for service. Given that fee-for-service enrollment years made up less than 10 percent of all enrollee years, the fee-for-service enrollees appear to be disproportionately represented among the population of high users.

¹¹⁹ Though the data is not shown, the sex distribution within each of the age groups was also similar. Also, please note that one additional “high user” had utilization of NEMT services during a period of Waiver expansion enrollment; this individual is excluded from the figure above.

Figure 31

Comparison of Characteristics of High NEMT Users to All NEMT Users in FFS



Source: DMS *ad hoc* data request, May 25, 2007.

DISCUSSION

Based on these data, Medicaid enrollees appear to access NEMT services on a very limited basis. Instead, Medicaid enrollees seemed to rely on other sources of transportation for their health care needs. While infants are more likely to use NEMT services when compared to older children, very few children in any age group seem to use the service regularly. No additional age or sex characteristics distinguish relatively high users.

Several factors may explain the relatively low levels of utilization. These include the following:

- First, some portion of the Medicaid population may simply be unaware of the availability of NEMT services, unsatisfied with past NEMT experiences, or otherwise unable or unwilling to access these services.

- Second, those children with higher medical needs (and hence, NEMT utilization) may be eligible for Medicaid under an ME code for the blind, disabled, etc.¹²⁰ Additionally, a relatively small proportion of enrollees likely have access to other transportation options from other programs or agencies.¹²¹
- Third, a substantial portion of the Medicaid population may have (or have access to) an automobile. The Census Bureau estimates that 93.2 percent of Missouri households in 2005 had one or more vehicles available (including 83.7 percent of households in renter-occupied units).¹²² By contrast, 10.0 percent of Missouri families were in poverty at some point during 2005. Given these estimates, at least some proportion of the population in poverty has access to an automobile.

Consistent with this observation, Nicholas Eberstadt notes that, “By 2003... over three-fifths of U.S. poverty-level households had one car or more.” Still, he cautions that, “to be sure, vehicle ownership was more limited among the officially poor than among the general public.”¹²³ James Sullivan looked at samples of low-educated single women between the ages of 18 and 54 from the Survey of Income and Program Participation (SIPP) for the years 1992 through 1999. He reported that, “Forty-three percent of all single mothers without a high school degree own an automobile. For a sample of those with a high school degree or less, 58 percent own cars.”¹²⁴

However, automobile ownership varies dramatically within the Medicaid population.¹²⁵ Indeed, the disparity in vehicle ownership may be more pronounced in more rural and more urban areas. As Bruce Weber et al. note, “A study in rural Iowa found that only 24 percent of welfare recipients owned a vehicle, the same percentage who reported owning a car in a study of

¹²⁰ We excluded children whose ME code reflects blindness or a disability to in order to make the Medicaid and 1115 Waiver cohorts more comparable for the purposes of this analysis.

¹²¹ For example, those in the juvenile justice system, group homes, foster care, and adoption placements may have access to NEMT services through the agencies that administer those programs. Most of the enrollees in these programs have ME codes that reflect their status. However, it is possible that a small number may still have ME codes that were included in our analyses.

¹²² Based on data from the American Community Survey, <http://factfinder.census.gov/>.

¹²³ Eberstadt, Nicholas. “The Mismeasure of Poverty.” Policy Review. Hoover Institution: August and September 2006, <http://www.hoover.org/publications/policyreview/3930481.html>.

¹²⁴ Sullivan, James X.. “Welfare Reform, Saving, and Vehicle Ownership: Do Asset Limits and Vehicle Exemptions Matter?” National Poverty Center Working Paper Series (#05-07), May 2005, http://www.npc.umich.edu/publications/workingpaper05/paper07/sullivan6_05.pdf.

¹²⁵ See generally Goldberg, Heidi. “State and County Supported Car Ownership Programs Can Help Low-Income Families Secure and Keep Jobs.” Center for Budget and Policy Priorities: November 28, 2001, <http://www.cbpp.org/11-8-01wel.htm>.

central-city Boston welfare participants.”¹²⁶ Additionally, age may also influence automobile ownership. The Transportation Research Board estimated that in 1990, roughly nine percent of households nationally did not have an automobile; almost half of those without an automobile were persons age 65 years or older.¹²⁷ Moreover, vehicle ownership may overstate access to consistently reliable transportation.

We caveat these findings with an important analytical note. While our selection criteria offer several advantages, we acknowledge that the criteria may impute a certain amount of “historical” bias into the results. For example, all enrollees in the sample had 12 or more months of eligibility. Consequently, our subset included only those FFS enrollees who underwent the Logisticare transition and who may have had prior experience with previous NEMT systems. To the extent that these FFS enrollees were less likely to be aware of the availability of NEMT services or have past NEMT experiences that were negative (relative to newer FFS enrollees), they may have been less likely to rely on Medicaid for their NEMT needs during the study period. For this reason, their utilization may have been somewhat lower compared to the newer FFS enrollees. We would expect a reduction in the magnitude of any such “historical” bias as FFS enrollees become more familiar with Logisticare over time.¹²⁸

CONTEXTUALIZING THE NEED

In order to further assess the role NEMT plays in accessing care, we conducted telephone interviews with parents of children enrolled in either Medicaid or the 1115 Waiver expansion and with provider representatives. Appendix IV includes a copy of the survey instrument used.

We spoke with seven parents. Of this group, two parents had children in the 1115 Waiver expansion and the other five had children enrolled in Medicaid. Of the five parents with children in Medicaid:

¹²⁶ Weber, Bruce, Greg Duncan, Leslie Whitener, and Kathleen Miller. “Still Left Behind, But Gaining Ground: Rural Poverty in America.” *Perspectives: On Poverty, Policy, and Place*, Vol.1, No. 1, May 2003, <http://www.rprconline.org/Perspectives/Perspectivesvol1n1.pdf>. (internal citations omitted).

¹²⁷ Transportation Research Board. “Using Public Transportation to Reduce the Economic, Social and Human Costs of Personal Immobility.” TCRP Web Document 7, 1998, http://books.nap.edu/openbook.php?record_id=9438&page=1.

¹²⁸ Interestingly, though, the NEMT volume for the FFS enrollee did not increase between December 2005 and August 2006. Indeed, NEMT volume trended downward for both FFS and managed care over this period.

- Two indicated that one of the adults in the household had an automobile; thus, access to doctors appointments was not a problem;
- One indicated her adolescent child took public transportation and that she had driven him to appointments in the past but no longer had an automobile. She had never used the NEMT service nor was she aware of its availability. She also indicated that the biggest barrier to accessing services was finding a provider who would see her son;
- One indicated that her elderly father took her son to appointments but that they do have to schedule appointments around her father's availability. Moreover, the mother expressed concern that her father may be unable to drive in the future;
- The fifth parent said her sister usually drove her son but that she paid her sister for gas. This woman had used the NEMT service and, though it was reliable and free, she found it inconvenient because it took so long (i.e., the scheduled pick-up, doctor's appointment and drop-off could consume the entire day).

In sum, the parents of Medicaid children with whom we spoke seemed able to transport their children to appointments, whether through their own automobiles or by asking for assistance from other extended family members. However, for at least two of the parents there were challenges associated with acquiring this help (either financial or scheduling challenges). For a third parent, public transportation was an option although this would certainly not be an option throughout the State. Moreover, there appeared to be a general lack of awareness about Medicaid's coverage of NEMT services. Further, the one parent who was aware of the service and had used it indicated that the service was not the most convenient mode of transport.

The parents of both of the 1115 Waiver expansion children indicated that they had automobiles and had no difficulty transporting their children to doctors' appointments. Additionally, these parents had jobs that were flexible and understanding of their need to drive their children to necessary appointments.

We also interviewed, via telephone, six patient representatives and office managers who work in community health centers. We asked them a series of questions regarding transportation and other potential access barriers. The patient representatives indicated that many Medicaid enrollees appear to be unfamiliar with Medicaid's coverage of NEMT services. However, those who are aware of Medicaid's NEMT service and use it consistently report few problems. Several clinics noted that they do help Medicaid enrollees organize transportation to

appointments, and one indicated that it had a transportation program for persons who may be ineligible for Medicaid and who lack access to NEMT services. The patient representatives also noted that some Medicaid enrollees were sometimes or often unable to (a) find providers who accept Medicaid; (b) get time off work; and/or (c) find child care. These concerns seem almost as common as transportation issues – and are often more difficult to resolve.

SUMMARY AND CONCLUSIONS

For a variety of potential reasons, utilization of NEMT services in Medicaid appears to be relatively low. As illustrated by the feedback we received from parents and providers, at least some Medicaid enrollees may not be aware that Medicaid covers NEMT services. However, even if all enrollees knew about the service, the appropriate or preferred level of NEMT utilization remains unclear. Some, if not most, may have access to automobiles and others may simply prefer to use other transportation alternatives.

The relatively low levels of NEMT utilization among Medicaid enrollees suggests that the lack of NEMT coverage may not be a substantial barrier to care for the 1115 Waiver expansion enrollees. Conversely, the provision of NEMT services would not likely result in high utilization among the 1115 Waiver expansion population.

We base these tentative conclusions on the following:

- *The lower rates of medical utilization among 1115 Waiver expansion enrollees (relative to children in Medicaid) suggest a potentially lower demand for NEMT services.*

As noted in our discussion in Research Question 2, the 1115 Waiver expansion enrollees have lower or equivalent rates of utilization of preventive services. This may reflect access barriers (perhaps owing to the lack of NEMT services) – or it may be indicative of a different level of need (demand) for health care. With respect to the latter, we note that 1115 Waiver expansion enrollees also have:

- Lower utilization rates of avoidable hospitalizations; and
- Lower utilization rates of emergency room encounters.¹²⁹

The lower utilization rates of these non-elective services suggest that the overall demand for health care services may actually be lower within the 1115 Waiver expansion relative to children in Medicaid. Given these apparent differences in demand for medical services, the utilization of NEMT services would likely also be lower among 1115 Waiver expansion enrollees.

- *The differing demographics of the 1115 Waiver expansion population also indicate a potentially lower demand for NEMT services.*

In contrast to the Medicaid population, children in the 1115 Waiver expansion are relatively higher-income. Consequently, and as borne out by the feedback received from the 1115 Waiver expansion parents, their families are more likely to have more ready access to automobiles and have less need for NEMT services. Children in the 1115 Waiver expansion are also more likely to have working parents or guardians. Other issues such as the lack of job flexibility, etc. may therefore be barriers to accessing services. In this context, the lack of NEMT transportation may be a secondary concern.

On balance, then, it seems that the lack of NEMT services within the 1115 Waiver expansion program likely has a minimal impact on access to care.

Of the possible explanations above for the low NEMT utilization in Medicaid, few if any would imply that NEMT utilization within the 1115 Waiver expansion population would be higher if that service were covered. Moreover, the population of “high users” does not appear to be distinguished by any characteristics that are more prevalent in the 1115 Waiver expansion population.

¹²⁹ Based on our analyses of the cohort data reported herein, the rate of emergency transports also appears to be lower among the 1115 Waiver expansion population relative to other children in Medicaid. This was true for both sexes, both delivery systems and for both the 1-5 and 6-12 age ranges.

However, one demographic factor may increase NEMT utilization among 1115 Waiver expansion population. Relative to children in Medicaid, those in the 1115 expansion are more likely to come from smaller families.¹³⁰ To the extent that NEMT utilization may be negatively influenced by the presence of (and need to care for and/or transport) other children,¹³¹ the NEMT utilization among the 1115 Waiver expansion population would be less affected by this factor.

¹³⁰ A smaller family with the same income and children of the same age as a larger family would fall at a higher point on the federal poverty level. Thus, children in the smaller family are more likely than the larger family to be eligible for the 1115 Waiver expansion, which serves children at comparatively higher points on the poverty scale relative to Medicaid. In contrast, children in the larger family are more likely to be eligible for Medicaid.

¹³¹ Some parents find themselves unable to use NEMT services because they may have to care for and perhaps bring to an appointment their other children, which an NEMT vendor may not agree to transport.

REFERENCES

Alicia Smith & Associates, LLC, "Evaluation of the Medicaid Section 1115 Waiver (Review Period September 1, 2004-August 31, 2005)," for the Missouri Department of Social Services, Division of Medical Services (2006).

Alicia Smith & Associates, LLC, "Evaluation of the Medicaid Section 1115 Waiver (Review Period September 1, 2003-August 31, 2004)," for the Missouri Department of Social Services, Division of Medical Services (2005).

Alicia Smith & Associates, LLC, "Evaluation of the Medicaid Section 1115 Waiver (Review Period September 1, 2002-August 31, 2003)," for the Missouri Department of Social Services, Division of Medical Services (2004).

Alicia Smith & Associates, LLC, "Evaluation of the Medicaid Section 1115 Waiver (Review Period September 1, 2001-August 31, 2002)," for the Missouri Department of Social Services, Division of Medical Services (2003).

Bazzoli, Gloria, Richard Lindrooth, Anthony LoSasso. "The Effect of Urban Hospital Closure on Markets." *Journal of Health Economics* 22: 691-712, 2003.

Behavioral Health Concepts, Inc., "Evaluation of the Medicaid Section 1115 Waiver: Report of Findings (Review Period September 1, 2000-August 31, 2001)," for the Missouri Department of Social Services, Division of Medical Services, (2002).

Behavioral Health Concepts, Inc., "Evaluation of the Medicaid Section 1115 Waiver: Report of Findings (Review Period September 1, 1999-August 31, 2000)," for the Missouri Department of Social Services, Division of Medical Services, (2001).

Betit, Rod L. "Background on Utah's New Medicaid Waiver." Utah Department of Health, May 2, 2002, <http://www.statecoverage.net/statereports/ut2.pdf>.

Brady, Kathleen T. "Missouri's snub of medical transport company's bid may not add up." *Daily Record and the Kansas City Daily News-Press*, Nov 12, 2005, http://findarticles.com/p/articles/mi_qn4181/is_20051112/ai_n15841654.

Bovbjerg, Randall, Jill Marsteller, Frank Ullman. "Health Care for the Poor and Uninsured after a Public Hospital's Closure or Conversion." Urban Institute, 2000.

Buchmueller, Thomas, Mireille Jacobson, Cheryl Wold. "How Far to the Hospital? The Affects of Hospital Closures on Access to Care." National Bureau of Economic Research Working Paper No. W10700, 2005.

Buchmueller, Thomas, Philip Cooper, Kosali Simon, and Jessica Vistnes. "The Effect of SCHIP Expansions on Health Insurance Decisions by Employers." *Inquiry Journal* 42: 218-231 (Fall 2005), <http://www.inquiryjournal.org>.

Cannon, Michael F. "Medicaid Is Behind the Decline in Private Health Coverage." *Union Leader* (September 19, 2005), http://www.cato.org/pub_display.php?pub_id=4843&print=Y (accessed April 12, 2006).

Chakravarthy, S., R.B. Singh, S. Swaminathan, P. Venkatesan. "Prevalence of asthma in urban and rural children in Tamil Nadu." *National Library of Medicine*, Sep-Oct 2002, http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12502136&dopt=Abstract.

Cherry, Donald K. & Woodwell, David A. (2002) National Ambulatory Medical Care Survey: 2000 Summary. Department of Health and Human Services, Centers for Disease Control and Prevention.

Citizens for Missouri's Children. "Mental Health Care Counts: Missouri's Fragmented Children's Mental Health System Demands Reform: A Kids Facts Report for Missouri's Children." Published with funding from the City of St. Louis Mental Health Board of Trustees, the Episcopal-Presbyterian Charitable and Medical Trust, the Deaconess Foundation, the Incarnate Word Foundation and the Employees Community Fund of Boeing St. Louis.

Clark, S., J. Shat, published by the Harvard School of Public Health. "Disproportionate Air Pollution Burden and Asthma in Urban Communities." Harvard School of Public Health, <http://www.med.harvard.edu/chge/textbook/papers/Clark.pdf>

Centers for Medicaid and Medicare Services. "Missouri Statewide Health Reform Demonstration Fact Sheet," May 4, 2007, <http://www.cms.hhs.gov/MedicaidStWaivProgDemoPGI/downloads/Missouri%20MC+%20Fact%20Sheet.pdf>.

Congressional Budget Office, "The State Children's Health Insurance Program" Washington, DC: Congress of the United States, Congressional Budget Office, (May 2007).

Congressional Budget Office, "How Many People Lack Health Insurance and For How Long?" Washington, DC: Congress of the United States, Congressional Budget Office, (May 2003).

Davidson, Gestur, Ph.D., Lynn A. Blewitt, Ph.D., and Kathleen Thiede Call, Ph.D. "Public program crowd-out of private coverage: What are the issues?" Robert Wood Johnson Foundation: The Synthesis Project, New Insights from Research Results, Research Synthesis Report No. 5 (June 2004).

Davis, Tricia, Kevin Lawrence, Bill Moran, Linda Moscoe, Gerius Patterson, Graham Rawsthorn. "Trends in Urban Hospital Closure 1990-2000." Department Of Health and Human Services: Office of Inspector General, OEI 04-02-00611, 2003.

DeNavas-Walt, C., B.D. Proctor & C. H. Lee, "Income, Poverty, and Health Insurance Coverage in the United States: 2004," Washington, DC: U.S. Census Bureau (August 2005).

Department of Health and Senior Services. "Report on the Health Care Safety Net in Missouri, August 2005."

<http://www.dhss.mo.gov/DataAndStatisticalReports/HealthCareSafetyNet.pdf>.

Dranove, David, Richard Lindrooth. "Hospital Closure and Economic Efficiency." Agency for Health Care Research Quality and the Pearle Foundation, 2006.

Dunkelburg, Anne, and Molly O'Malley, preparers. "Children's Medicaid and SCHIP in Texas: Tracking the Impact of Budget Cuts." Kaiser Family Foundation (July 2004).

Eberstadt, Nicholas. "The Mismeasure of Poverty." Policy Review. Hoover Institution: August and September 2006,

<http://www.hoover.org/publications/policyreview/3930481.html>.

Families USA. "The Great Divide: When Kids Get Sick, Insurance Matters." Families USA (February 2007), <http://www.familiesusa.org>.

Ferber, Joel. "Measuring the Decline in Children's Participation in the Missouri Medicaid Program: An Update." Legal Services of Eastern Missouri, Health and Welfare Unit, St. Louis, Missouri (September 2006).

Friedman, Emily. "Health Insurance, the Uninsured, and Hospitals: Collision Course." *Frontiers of Health Services Management*, 21 (4), 2005.

Goldberg, Heidi. "State and County Supported Car Ownership Programs Can Help Low-Income Families Secure and Keep Jobs." Center for Budget and Policy Priorities: November 28, 2001, <http://www.cbpp.org/11-8-01wel.htm>.

Gould, Elise. "Health Insurance Eroding for Working Families, Employer-provided coverage declines for fifth consecutive year." *Economic Policy Institute Briefing Paper*, Briefing Paper #175 (September 28, 2006), <http://www.epi.org>.

Gruber, Jonathan, Kosali Simon. "Crowd-Out Ten Years Later: Have Recent Public Insurance Expansions Crowded Out Private Health Insurance?" *National Bureau of Economic Research Working Paper Series*, Working Paper 12858 (January 2007), <http://www.nber.org/papers/w12858>.

Hadley, Jack, James D. Reschovsky, Peter Cunningham, Genevieve Kenney, Lisa Dubay. "Insurance Premiums and Insurance Coverage of Near-Poor Children." *Inquiry Journal* 43: 362-377 (Winter 2006/2007), <http://www.inquiryjournal.org>.

Hegner, Richard E. "The State Children's Health Insurance Program: How Much Latitude Do the States Really Have?" The George Washington University National Health Policy Forum Issue Brief, No. 725 (October 1, 1998).

Holahan, John, Allison Cook. "Changes in Economic Conditions and Health Insurance Coverage, 2000-2004." *Health Affairs – Web Exclusive*, W5 (November 2005), <http://www.healthaffairs.org>.

Hospital Characteristics on Emergency Department Ambulance Diversion. *Annals of Emergency Medicine*, 47.4: 309-316

Hudson, Julie L., Thomas M. Selden, and Jessica S. Banthin. "The Impact of SCHIP on Insurance Coverage of Children." *Inquiry Journal* 42: 232-254 (Fall 2005), <http://www.inquiryjournal.org>.

Jargowsky, Paul A. "Stunning Progress, Hidden Problems: The Dramatic Decline of Concentrated Poverty in the 1990s." Brookings, Washington, DC, May 2003, <http://www.brookings.edu/es/urban/publications/jargowskypoverty.htm>.

Kagan, Rachael, Lisa Maiuro, Julie Schmittiel, Wil Yu. "California's Closed Hospitals, 1995-2000." Report of the Nicholas C. Petris CenterCapps, 2001.

Kaiser Commission on Medicaid and the Uninsured. "The Uninsured and Their Access to Health Care." Kaiser Family Foundation (October 2006).

Kaiser Family Foundation, and Health Research and Educational Trust. "Employer Health Benefits, 2006 Annual Survey." Kaiser Family Foundation and Health Research and Educational Trust, publ. #7527 (2006), <http://www.kff.org>.

Kenney, Genevieve, R. Andrew Allison, Julia F. Costich, Jame Marton, Joshua McFeeters. "Effects of Premium Increases on Enrollment in SCHIP: Findings from Three States." *Inquiry Journal* 43: 378-392 (Winter 2006/2007). <http://www.inquiryjournal.org>.

Kenney, Genevieve, Jack Hadley, Fredric Blavin. "Effects of Public Premiums on Children's Health Insurance Coverage: Evidence from 1999 to 2003." *Inquiry Journal* 43: 345-361 (Winter 2006/2007), <http://www.inquiryjournal.org>.

Kit Bond U.S. Senator for Missouri Press Announcements. "Bond Celebrates St. Louis' Improved Health Care Safety Net System Will Improve Access, Delivery of Care for Neediest Patients." U.S. Senator Kit Bond of Missouri Web site, http://bond.senate.gov/press_section/record.cfm?id=246873.

Kit Bond U.S. Senator for Missouri Web site: <http://bond.senate.gov>

Ku, Leighton, Sashi Nimalendran. "Improving Children's Health A Chartbook About the Roles of Medicaid and SCHIP." Center on Budget and Policy Priorities (January 2004), <http://www.cbpp.org>.

Ku, Leighton, Victoria Wachino. "The Effect of Increased Cost-Sharing in Medicaid: A Summary of Research Findings." Center on Budget and Policy Priorities (July 7, 2005), <http://www.cbpp.org>.

Liu, Su, Deborah Chollet. "Price and Income Elasticity of the Demand for Health Insurance and Health Care Services: A Critical Review of the Literature." Mathematica Policy Research, Inc., Final Report (March 24, 2006).

Lurie, Nicole, M.D., M.S.P.H., Michael Stoto Ph.D. "Health Insurance Status in the District of Columbia." Prepared under contract with the District of Columbia Primary Care Association. October 22, 2002, <http://www.dcpca.org/images/stories/docs/10-02RAND.DCPCAHealthInsuranceinDC.pdf>.

Matt Blunt Governor of Missouri Press Announcements. "Blunt Expands Children's Access to Healthcare." Office of the Governor of Missouri. <http://www.gov.mo.gov/press/SCHIPS061506.htm> (accessed April 12, 2007).

McBride, Timothy. "Report 8: Comparison of Missouri Uninsurance Survey Data Sources." Missouri Foundation for Health, (2006), <http://www.mffh.org/ShowMe8-final.pdf>.

Missouri Department of Health. "Behavioral Risk Factor Surveillance System." Missouri State Data Report, 2001.

Missouri Department of Health. "Behavioral Risk Factor Surveillance System." Missouri State Data Report, 2000.

Monthly Management Reports for September 2005 – August 2006. Missouri Department of Social Services, Family Support Division, Division of Medical Services, <http://www.dss.mo.gov/re/fsmsmr.htm>.

Monthly Management Reports for September 2004 – August 2005. Missouri Department of Social Services, Family Support Division, Division of Medical Services, <http://www.dss.mo.gov/re/fsmsmr.htm>.

Nagourney E. "Childhood asthma and urban geography." New York Times, Sept. 29, 2000, <http://library.uchc.edu/bhn/cite/nyt/3245asthma.html>

National CAHPS® Benchmarking Database. “What Consumers Say About the Quality of Their Health Plans and Medical Care.” NCBD 2002 Chart book (September 2002) 2001.

National Center for Health Statistics. “Asthma Prevalence, Health Care Use and Mortality, 2002.” Fact sheet by the National Center for Health Statistics, last updated February 08, 2005, <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/asthma/asthma.htm>.

National Center for Health Statistics. “Healthy People 2000 Final Review.” Public Health Service, 2001, <http://www.cdc.gov/nchs/data/hp2000/hp2k01-acc.pdf>.

News Release Wire. “LogistiCare Earns Missouri Contract Renewal for Medicaid Non-Emergency Medical Transportation.” News Release Wire Online, April 24, 2006, <http://www.expertclick.com/NewsReleaseWire/default.cfm?Action=ReleaseDetail&ID=12410>.

Office of the Inspector General, Department of Health and Human Services. “Trends in Urban Hospital Closure: 1990-2000.” May 2003, <http://www.oig.hhs.gov/oei/reports/oei-04-02-00611.pdf>.

Saint Louis ConnectCare. About Us, <http://stlconnectcare.org/about.html>

Saint Louis Integrated Health Network. About Us, http://www.stlouisihn.org/m_aboutus.php

Saint Louis Regional Healthcare Commission. “Building a Healthier Saint Louis.” Saint Louis Regional Healthcare Commission, March 2003.

Saint Louis Regional Healthcare Commission. “Building a Healthier Saint Louis: Recommendations for Improving the Delivery of Safety Net Primary and Specialty Care Services in St. Louis City and County.” Saint Louis Regional Healthcare Commission, October 2003.

Shore-Sheppard, Lara D. “Stemming the Tide? The Effect of Expanding Medicaid Eligibility on Health Insurance.” *National Bureau of Economic Research Working Paper Series*, Working Paper 11091 (January 2005), <http://www.nber.org/papers/w11091>.

Sommers, Anna, Stephen Zuckerman, Lisa Dubay and Genevieve Kenney. “Substitution or SCHIP For Private Coverage: Results From A 2002 Evaluation In 10 States.” *Health Affairs* 26: 529-537 (March/April 2007).

Southeast Missourian. “Census stats show loss of population in St. Louis.” Southeast Missourian Online, June 24, 2004, <http://www.semissourian.com/story/140297.html>.

State Health Access Data Assistance Center (SHADAC), Urban Institute. "Going Without: America's Uninsured Children." SHADAC and the Urban Institute for the Robert Wood Johnson Foundation (August 2005).

Strunk, Bradley C., James D. Reschovsky. "Working Families' Health Insurance Coverage, 1997-2001." Centers for Studying Health System Change: Tracking Report, (August 2002)

Sullivan, James X. "Welfare Reform, Saving, and Vehicle Ownership: Do Asset Limits and Vehicle Exemptions Matter?" National Poverty Center Working Paper Series (#05-07), May 2005,
http://www.npc.umich.edu/publications/workingpaper05/paper07/sullivan6_05.pdf.

Sun, Benjamin, Sarita Mohanty, Robert Weiss, Richard Tadeo, Maureen Hasbrouck, Cathy Tokarski. "Closures Didn't Affect Access." *Modern Healthcare* 6, 1990.

Sun, B., S. Mohanty, R. Weiss, R. Tadeo, M. Hasbrouck, W. Koenig, C. Meyer, S. Asch. "Effects of Hospital Closures and Hospital Characteristics on Emergency Department Ambulance Diversion, Los Angeles County, 1998 to 2004." *Annals of Emergency Medicine*, Volume 47, Issue 4, Pages 309-316.

Sun, Donglin. "Keeping children out of hospitals: parents' and physicians' perspectives on how pediatric hospitalizations for ambulatory care-sensitive conditions can be avoided." *Pediatrics* November 1, 2003.

Thimangu, Patrick L. "LogistiCare lands Medicaid transportation contract." *St. Louis Business Journal*, October 5, 2005,
<http://stlouis.bizjournals.com/stlouis/stories/2005/10/03/daily50.html>.

Transportation Research Board. "Using Public Transportation to Reduce the Economic, Social and Human Costs of Personal Immobility." TCRP Web Document 7, 1998,
http://books.nap.edu/openbook.php?record_id=9438&page=1.

The Urban Institute. "Key Findings From the 2002 National Health Interview Survey, Access to Care among Uninsured and Insured Children: Well-Child Checkups, Usual Source of Care and Unmet Needs." The Urban Institute (n.d.).

U.S. Census Bureau, 1990 and 2000 Censuses of U.S. Population and Housing.

U.S. Census Bureau, 2005 American Community Survey.

US Census Bureau, Current Population Survey, 2004 to 2006 Annual Social and Economic Supplements. "Historical Poverty Tables, Table 19, Percent of Persons in Poverty, by State: 2003, 2004, 2005." US Census Bureau.
<http://www.census.gov/hhes/www/poverty/histpov/hstpov19.html> (accessed January 19, 2007).

US Census Bureau, Current Population Survey/Annual Social and Economic Supplement. "Historical Health Insurance Tables, Table HI-5, Health Insurance Coverage by State – Children under 18: 1987 to 2005."
<http://www.census.gov/hhes/hlthins/historic/hihist5.html>.

US Census Bureau, Current Population Survey/Annual Social and Economic Supplement. "Historical Health Insurance Tables, Table HI-6, Health Insurance Coverage by State – People under 65: 1987 to 2005."
<http://www.census.gov/hhes/hlthins/historic/hihist6.html>.

US Census Bureau, Current Population Survey, 2004 to 2006 Annual Social and Economic Supplements, "Income 2005, Two-Year-Average Median Household Income by State: 2003-2005."
<http://www.census.gov/hhes/www/income/income05/statemhi2.html> (accessed January 19, 2007).

US Census Bureau, Current Population Survey, 2004 to 2006 Annual Social and Economic Supplements. "Table 10: Percentage of People Without Health Insurance Coverage by State Using 2- and 3-Year Averages: 2003 to 2005." US Census Bureau.
<http://www.census.gov/hhes/www/hlthins/hlthin05/hi05t10.pdf>.

US Census Bureau. General Demographic Characteristics: 2005 - Missouri. American Community Survey; DP-1. Profile of General Demographic Characteristics: 2000 (from US Census).

US Census Bureau, Small Area Health Insurance Estimates by County, 2000 (released July 2005).

U.S. Census Bureau, Small Area Health Insurance Estimates Program. "Experimental Small Area Health Insurance Estimates by State, 2000." US Census Bureau. July 21, 2005, <http://www.census.gov/hhes/www/sahie/data/est2000/sahie00st.xls>.

US Census Bureau, St. Louis City, Missouri. "Population and Housing Narrative Profile: 2005." <http://factfinder.census.gov>.

US Department of Labor, Bureau of Labor Statistics. "Regional and State Unemployment, 2006 Annual Averages." <http://www.bls.gov/lau/> (accessed March 2, 2007).

US Department of Labor, Bureau of Labor Statistics. "Regional and State Employment and Unemployment: March 2000."
<ftp://ftp.bls.gov/pub/news.release/History/laus.04212000.news> (accessed April 21, 2006).

Weber, Bruce, Greg Duncan, Leslie Whitener, and Kathleen Miller. "Still Left Behind, But Gaining Ground: Rural Poverty in America." *Perspectives: On Poverty, Policy, and Place*, Vol.1, No. 1, May 2003, <http://www.rprconline.org/Perspectives/Perspectivesvol1n1.pdf>.

West, Nathan, MPA. "The Impact of Premiums on Wisconsin's BadgerCare Program." PowerPoint presentation at the annual research meeting for AcademyHealth, Research Triangle Park, North Carolina, June 6-8, 2004.

Wooldridge, Judith, Ian Hill, Mary Harrington, Genevieve Kenney, Corinna Hawkes, Jennifer Haley. "Interim Evaluation Report: Congressionally Mandated Evaluation of the State Children's Health Insurance Program." Mathematica Policy Research, Inc. Princeton, NJ, The Urban Institute, Washington, DC, (February 2003).

Yudkowsky, Beth. "State Children's Health Insurance Program: Evaluation Tool." American Academy of Pediatrics, Division of Health Policy Research, 1998.

Zuckerman, Stephen, Allison Cook. "Geographic Variations in Health Insurance: A Profile of Missouri: Cover Missouri Project: Report 8 (State Report)." The Urban Institute, p 8, 2006, <http://www.urban.org/publications/1001008.html>.

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2005-August 31, 2006*

Table I: Health Insurance Coverage, Children Age < 18

Data sou U.S. Census Bureau

		All Types of Coverage						Government-Based						Uninsured			
Under 18 years		Total Population		Private or Govt.		Private		Employment - Based		Medicaid		Medicare		Military		Not Covered	
Year	Total MO	Total US	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	
1990	1,458	65,290	1,267	56,786	1,038	46,436	897	39,981	270	12,094	-	88	22	2,408	191	8,504	
1991	1,205	66,173	1,035	57,794	866	46,114	755	39,683	198	13,514	-	52	-	2,425	170	8,379	
1992	1,347	68,720	1,170	60,005	937	47,183	797	40,382	263	15,109	3	97	32	2,378	176	8,716	
1993	1,380	69,766	1,251	60,192	992	47,017	860	39,745	326	16,693	4	48	51	2,307	129	9,574	
1994	1,204	70,509	1,087	60,505	843	46,266	814	42,966	283	16,132	-	228	32	2,708	117	10,003	
1995	1,258	71,148	1,077	61,353	907	47,021	823	43,822	207	16,524	3	348	50	2,336	181	9,795	
1996	1,431	71,224	1,264	60,670	1,000	47,219	871	44,054	333	15,502	16	484	23	2,291	168	10,554	
1997	1,365	71,682	1,187	60,939	978	47,968	873	44,869	225	14,683	4	395	24	2,163	178	10,743	
1998	1,387	72,022	1,263	60,949	1,016	48,627	949	45,593	287	14,274	11	325	48	2,240	123	11,073	
1999	1,431	72,281	1,366	62,996	1,110	50,300	1,008	46,834	306	14,697	4	364	41	2,076	46	9,285	
2000	1,425	72,314	1,324	63,697	1,109	50,499	1,009	47,431	252	15,090	9	518	31	2,563	101	8,617	
2001	1,403	72,628	1,337	64,118	1,079	49,647	1,002	46,439	335	16,502	6	423	24	2,381	66	8,509	
2002	1,374	73,312	1,304	64,781	1,045	49,473	972	46,182	344	17,526	8	524	52	2,148	69	8,531	
2003	1,406	73,580	1,303	65,207	1,002	48,475	945	45,004	374	19,392	27	483	33	2,021	103	8,373	
2004	1,411	73,791	1,297	65,842	964	48,462	889	44,892	407	19,847	12	500	25	2,045	120	7,949	
2005	1,384	73,985	1,278	65,675	939	48,395	838	44,741	399	19,737	9	543	29	2,262	106	8,310	
% Change from 2004-2005			-1.5%	-0.3%	-2.6%	-0.1%	-5.7%	-0.3%	-2.0%	-0.6%	-25.0%	8.6%	16.0%	10.6%	-11.7%	4.5%	
% Change from 1993 - 1999			9.19%	4.66%	11.90%	6.98%	17.21%	17.84%	-6.13%	-11.96%	0.00%	658.33%	-19.61%	-10.01%	-64.34%	-3.02%	
% Change from 1999 - 2005			-6.44%	4.25%	-15.41%	-3.79%	-16.87%	-4.47%	30.39%	34.29%	125.00%	49.18%	-29.27%	8.96%	130.43%	-10.50%	

U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1990 to 2005

<http://www.census.gov/hhes/althins/historic/hihist5.html>

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2005-August 31, 2006*

Table I: Health Insurance Coverage, Children Age < 18

Data sou U.S. Census Bureau

		All Types of Coverage						Government-Based						Uninsured			
Under 18 years		Total Population		Private or Govt.		Private		Employment - Based		Medicaid		Medicare		Military		Not Covered	
Year	Total MO	Total US	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	
1990	1,458	65,290	86.9%	87.0%	71.2%	71.1%	61.5%	61.2%	18.5%	18.5%	0.0%	0.1%	1.5%	3.7%	13.1%	13.0%	
1991	1,205	66,173	85.9%	87.3%	71.9%	69.7%	62.7%	60.0%	16.4%	20.4%	0.0%	0.1%	0.0%	3.7%	14.1%	12.7%	
1992	1,347	68,720	86.9%	87.3%	69.6%	68.7%	59.2%	58.8%	19.5%	22.0%	0.2%	0.1%	2.4%	3.5%	13.1%	12.7%	
1993	1,380	69,766	90.7%	86.3%	71.9%	67.4%	62.3%	57.0%	23.6%	23.9%	0.3%	0.1%	3.7%	3.3%	9.3%	13.7%	
1994	1,204	70,509	90.3%	85.8%	70.0%	65.6%	67.6%	60.9%	23.5%	22.9%	0.0%	0.3%	2.7%	3.8%	9.7%	14.2%	
1995	1,258	71,148	85.6%	86.2%	72.1%	66.1%	65.4%	61.6%	16.5%	23.2%	0.2%	0.5%	4.0%	3.3%	14.4%	13.8%	
1996	1,431	71,224	88.3%	85.2%	69.9%	66.3%	60.9%	61.9%	23.3%	21.8%	1.1%	0.7%	1.6%	3.2%	11.7%	14.8%	
1997	1,365	71,682	87.0%	85.0%	71.6%	66.9%	64.0%	62.6%	16.5%	20.5%	0.3%	0.6%	1.8%	3.0%	13.0%	15.0%	
1998	1,387	72,022	91.1%	84.6%	73.3%	67.5%	68.4%	63.3%	20.7%	19.8%	0.8%	0.5%	3.5%	3.1%	8.9%	15.4%	
1999	1,431	72,281	95.5%	87.2%	77.6%	69.6%	70.4%	64.8%	21.4%	20.3%	0.3%	0.5%	2.9%	2.9%	3.2%	12.8%	
2000	1,425	72,314	92.9%	88.1%	77.8%	69.8%	70.8%	65.6%	17.7%	20.9%	0.6%	0.7%	2.2%	3.5%	7.1%	11.9%	
2001	1,403	72,628	95.3%	88.3%	76.9%	68.4%	71.4%	63.9%	23.9%	22.7%	0.4%	0.6%	1.7%	3.3%	4.7%	11.7%	
2002	1,374	73,312	94.9%	88.4%	76.1%	67.5%	70.7%	63.0%	25.0%	23.9%	0.6%	0.7%	3.8%	2.9%	5.0%	11.6%	
2003	1,406	73,580	92.7%	88.6%	71.3%	65.9%	67.2%	61.2%	26.6%	26.4%	1.9%	0.7%	2.3%	2.7%	7.3%	11.4%	
2004	1,411	73,791	91.9%	89.2%	68.3%	65.7%	63.0%	60.8%	28.8%	26.9%	0.9%	0.7%	1.8%	2.8%	8.5%	10.8%	
2005	1,384	73,985	92.3%	88.8%	67.8%	65.4%	60.5%	60.5%	28.8%	26.7%	0.7%	0.7%	2.1%	3.1%	7.7%	11.2%	
% Change from 2004 - 2005			0.5%	-0.5%	-0.7%	-0.4%	-3.9%	-0.6%	-0.1%	-0.8%	-23.5%	8.3%	18.3%	10.3%	-9.9%	4.3%	
% Change from 1992 - 1998			4.84%	-3.08%	5.30%	-1.66%	15.64%	7.73%	5.98%	-9.86%	256.09%	219.69%	45.67%	-10.12%	-32.13%	21.22%	
% Change from 1999 - 2005			-3.26%	1.85%	-12.53%	-6.00%	-14.04%	-6.67%	34.82%	31.20%	132.64%	45.74%	-26.87%	6.45%	138.26%	-12.56%	
Average from 1992-1998															11.5%	14.2%	
Average from 1999-2005															6.2%	11.6%	

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2005-August 31, 2006*

Table II: Health Insurance Coverage, Non-Elderly Adults

Data source: U.S. Census Bureau

Year	All Types of Coverage						Government-Based						Uninsured			
	Private or Govt.		Private		Employment - Based		Medicaid		Medicare		Military		Not Covered		% Uninsured	
	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA
1990	2,729	127,565	2,498	115,133	2,188	100,232	191	9,585	53	3,377	88	6,363	469	25,939	14.67%	16.90%
1991	2,773	127,908	2,592	114,546	2,284	100,280	174	10,475	60	3,477	36	6,217	441	26,777	13.72%	17.31%
1992	2,590	128,102	2,347	113,639	2,035	98,470	198	11,438	86	3,843	72	5,969	546	29,576	17.42%	18.76%
1993	2,650	129,432	2,418	115,009	2,123	98,626	209	12,347	77	3,659	97	6,045	496	29,775	15.76%	18.70%
1994	2,643	130,904	2,408	116,793	2,238	105,598	194	12,638	93	3,496	83	6,907	505	29,425	16.04%	18.35%
1995	2,684	131,021	2,494	117,106	2,193	106,494	157	12,533	67	3,786	98	5,888	571	30,486	17.54%	18.91%
1996	2,588	132,866	2,409	118,952	2,138	108,219	190	12,733	84	4,126	72	5,423	529	30,825	16.97%	18.83%
1997	2,690	132,958	2,469	119,877	2,246	109,259	173	11,372	103	4,325	52	5,240	488	32,372	15.36%	19.58%
1998	2,884	134,477	2,681	122,063	2,452	111,833	179	10,619	72	4,476	67	5,321	447	32,850	13.43%	19.63%
1999 ¹	3,147	140,470	2,907	127,744	2,639	116,683	248	10,852	71	4,554	55	5,315	328	30,675	9.44%	17.92%
2000 ²	3,055	142,702	2,821	129,860	2,592	119,138	230	11,105	102	4,933	75	5,126	421	30,935	12.11%	17.82%
2001	2,960	143,259	2,686	129,461	2,429	118,467	252	11,828	99	5,162	84	5,015	498	32,426	14.40%	18.46%
2002	2,955	143,603	2,722	128,814	2,467	117,531	212	12,437	71	5,294	92	5,656	577	34,785	16.34%	19.50%
2003	2,909	143,740	2,657	128,235	2,408	116,813	223	13,065	110	5,716	105	5,752	513	36,302	14.99%	20.16%
2004	2,901	144,577	2,537	128,465	2,313	116,777	334	14,370	140	5,792	84	6,125	582	37,575	16.68%	20.63%
2005	3,028	146,536	2,696	129,428	2,464	117,412	283	15,000	137	5,915	100	6,299	581	37,808	16.65%	20.76%

U.S. Census Bureau, Historical Health Insurance Tables, Table HI-5. Health Insurance Coverage by State -- Children Under 18: 1990 to 2005

<http://www.census.gov/hhes/hlthins/historic/hihist5.html>

U.S. Census Bureau, Historical Health Insurance Tables, Table HI-6. Health Insurance Coverage Status and Type of Coverage by State -- People Under 65: 1987 to 2005

<http://www.census.gov/hhes/hlthins/historic/hihist6.html>

1/ Implementation of Census 2000 based population controls.

2/ Sample expanded by 28,000 households.

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2005-August 31, 2006*

Table III: Health Insurance Coverage, Children and (Non-Elderly) Adults

Data source: U.S. Census Bureau

	All Types of Coverage						Government-Based						Uninsured			
	Private or Govt.		Private		Employment - Based		Medicaid		Medicare		Military		Not Covered		% Uninsured	
	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA	MO	USA
1990	3,996	184,351	3,536	161,569	3,085	140,213	461	21,679	53	3,465	110	8,771	660	34,443	14.2%	15.7%
1991	3,808	185,702	3,458	160,660	3,039	139,963	372	23,989	60	3,529	36	8,642	611	35,156	13.8%	15.9%
1992	3,760	188,107	3,284	160,822	2,832	138,852	461	26,547	89	3,940	104	8,347	722	38,292	16.1%	16.9%
1993	3,901	189,624	3,410	162,026	2,983	138,371	535	29,040	81	3,707	148	8,352	625	39,349	13.8%	17.2%
1994	3,730	191,409	3,251	163,059	3,052	148,564	477	28,770	93	3,724	115	9,615	622	39,428	14.3%	17.1%
1995	3,761	192,374	3,401	164,127	3,016	150,316	364	29,057	70	4,134	148	8,224	752	40,281	16.7%	17.3%
1996	3,852	193,536	3,409	166,171	3,009	152,273	523	28,235	100	4,610	95	7,714	697	41,379	15.3%	17.6%
1997	3,877	193,897	3,447	167,845	3,119	154,128	398	26,055	107	4,720	76	7,403	666	43,115	14.7%	18.2%
1998	4,147	195,426	3,697	170,690	3,401	157,426	466	24,893	83	4,801	115	7,561	570	43,923	12.1%	18.4%
1999	4,513	203,466	4,017	178,044	3,647	163,517	554	25,549	75	4,918	96	7,391	374	39,960	7.7%	16.4%
2000	4,379	206,399	3,930	180,359	3,601	166,569	482	26,195	111	5,451	106	7,689	522	39,552	10.7%	16.1%
2001	4,297	207,377	3,765	179,108	3,431	164,906	587	28,330	105	5,585	108	7,396	564	40,935	11.6%	16.5%
2002	4,259	208,384	3,767	178,287	3,439	163,713	556	29,963	79	5,818	144	7,804	646	43,316	13.2%	17.2%
2003	4,212	208,947	3,659	176,710	3,353	161,817	597	32,457	137	6,199	138	7,773	616	44,675	12.8%	17.6%
2004	4,198	210,419	3,501	176,927	3,202	161,669	741	34,217	152	6,292	109	8,170	702	45,524	14.3%	17.8%
2005	4,306	212,211	3,635	177,823	3,302	162,153	682	34,737	146	6,458	129	8,561	687	46,118	13.8%	17.9%

U.S. Census Bureau, Historical Health Insurance Tables, Table HI-6. Health Insurance Coverage Status and Type of Coverage by State -- People Under 65: 1990 to 2004

<http://www.census.gov/hhes/hlthins/historic/hihist6.html>

1/ Implementation of Census 2000 based population controls.

2/ Sample expanded by 28,000 households.

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER Review period: September 1, 2005-August 31, 2006

Table IVa-1: 1115 Waiver Enrollment by Area/Region - Children

Data source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2005 – August 2006.

	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06
AREA 1-Northwest												
Non-Premium	8,293	3,979	3,967	3,998	4,052	4,076	3,984	4,057	4,028	4,023	4,018	4,132
Premium	364	3,144	3,147	3,045	2,868	2,637	2,391	2,274	2,237	2,169	2,124	2,106
TOTAL	8,657	7,123	7,114	7,043	6,920	6,713	6,375	6,331	6,265	6,192	6,142	6,238
AREA 2-Northeast												
Non-Premium	9,749	4,618	4,621	4,703	4,849	4,868	4,699	4,758	4,698	4,789	4,785	4,870
Premium	419	3,804	3,772	3,560	3,394	3,175	2,815	2,629	2,535	2,486	2,420	2,448
TOTAL	10,168	8,422	8,393	8,263	8,243	8,043	7,514	7,387	7,233	7,275	7,205	7,318
AREA 3-Southeast												
Non-Premium	13,377	6,734	6,746	6,783	6,869	6,818	6,634	6,610	6,702	6,781	6,810	6,982
Premium	536	4,764	4,705	4,443	4,154	3,887	3,425	3,259	3,065	2,951	2,927	2,993
TOTAL	13,913	11,498	11,451	11,226	11,023	10,705	10,059	9,869	9,767	9,732	9,737	9,975
AREA 4-Southwest												
Non-Premium	20,651	10,257	10,209	10,344	10,511	10,584	9,897	9,910	10,047	10,209	10,293	10,505
Premium	735	7,216	7,142	6,650	6,157	5,757	5,130	4,826	4,575	4,392	4,259	4,332
TOTAL	21,386	17,473	17,351	16,994	16,668	16,341	15,027	14,736	14,622	14,601	14,552	14,837
AREA 5-Kansas City												
Non-Premium	14,640	6,748	6,719	6,747	6,805	6,840	6,474	6,495	6,679	6,674	6,733	6,809
Premium	643	5,383	5,324	4,872	4,647	4,320	4,022	3,936	3,876	3,700	3,625	3,655
TOTAL	15,283	12,131	12,043	11,619	11,452	11,160	10,496	10,431	10,555	10,374	10,358	10,464
AREA 6-St. Louis Region												
Non-Premium	21,704	10,818	10,706	10,675	10,606	10,598	9,931	9,883	9,992	10,072	10,132	10,410
Premium	942	6,952	7,059	6,678	6,340	6,155	5,720	5,652	5,536	5,452	5,407	5,461
TOTAL	22,646	17,770	17,765	17,353	16,946	16,753	15,651	15,535	15,528	15,524	15,539	15,871
WAIVER EXPANSION STATE WIDE												
Non-Premium	88,414	43,154	42,968	43,250	43,692	43,784	41,619	41,713	42,146	42,548	42,771	43,708
Premium	3,639	31,263	31,149	29,248	27,560	25,931	23,503	22,576	21,824	21,150	20,762	20,995
TOTAL	92,053	74,417	74,117	72,498	71,252	69,715	65,122	64,289	63,970	63,698	63,533	64,703

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER Review period: September 1, 2005-August 31, 2006

Table IVa-1: 1115 Waiver Enrollment by Area/Region - Children

Data source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2005 – August 2006.

	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06
MEDICAID STATE WIDE												
MC+ Poverty	157,682	160,028	159,672	184,466	184,216	183,141	187,156	185,316	185,177	219,923	217,652	217,949
MAF Children	150,851	151,159	151,947	152,806	154,063	153,079	152,779	151,463	150,745	150,844	150,164	151,561
TMA Children	106,637	102,980	100,788	73,870	71,520	69,651	68,206	66,023	64,089	26,199	24,827	23,799
TOTAL	415,170	414,167	412,407	411,142	409,799	405,871	408,141	402,802	400,011	396,966	392,643	393,309
STATE WIDE												
TOTAL	507,223	488,584	486,524	483,640	481,051	475,586	473,263	467,091	463,981	460,664	456,176	458,012

69,947

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER Review period: September 1, 2004-August 31, 2005

Table IVa-2: 1115 Waiver Enrollment by Area/Region - Children

Data source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2004 – August 2005.

	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05
AREA 1-Northwest												
No Cost	6,778	6,902	7,004	7,109	7,082	7,136	7,141	7,178	7,024	6,887	6,862	6,866
Copay	1,995	2,051	2,088	2,077	2,103	2,115	1,880	1,926	1,925	1,858	1,837	1,764
Premium	346	321	316	342	330	292	263	284	353	357	376	361
TOTAL	9,119	9,274	9,408	9,528	9,515	9,543	9,284	9,388	9,302	9,102	9,075	8,991
AREA 2-Northeast												
No Cost	7,779	7,884	7,911	7,883	7,902	7,861	7,856	7,776	7,753	7,583	7,609	7,709
Copay	2,103	2,222	2,308	2,387	2,408	2,434	2,177	2,230	2,231	2,226	2,275	2,222
Premium	321	312	311	341	354	341	310	323	343	378	393	406
TOTAL	10,203	10,418	10,530	10,611	10,664	10,636	10,343	10,329	10,327	10,187	10,277	10,337
AREA 3-Southeast												
No Cost	10,742	10,788	10,894	10,847	10,905	11,034	11,039	11,056	11,016	10,842	10,727	10,817
Copay	2,833	2,905	2,939	2,953	3,008	3,041	2,728	2,799	2,866	2,878	2,914	2,831
Premium	541	519	507	498	498	497	455	449	462	474	508	539
TOTAL	14,116	14,212	14,340	14,298	14,411	14,572	14,222	14,304	14,344	14,194	14,149	14,187
AREA 4-Southwest												
No Cost	16,588	16,678	16,748	16,782	16,904	16,949	16,922	16,954	16,976	16,783	16,784	16,801
Copay	4,380	4,457	4,549	4,596	4,614	4,683	4,240	4,391	4,449	4,444	4,485	4,335
Premium	664	640	634	626	634	605	593	618	658	702	722	728
TOTAL	21,632	21,775	21,931	22,004	22,152	22,237	21,755	21,963	22,083	21,929	21,991	21,864
AREA 5-Kansas City												
No Cost	11,306	11,291	11,349	11,484	11,568	11,686	11,659	11,759	11,782	11,593	11,687	11,649
Copay	3,150	3,259	3,293	3,400	3,412	3,440	3,175	3,226	3,287	3,351	3,390	3,355
Premium	539	540	554	575	567	543	469	524	567	573	610	660
TOTAL	14,995	15,090	15,196	15,459	15,547	15,669	15,303	15,509	15,636	15,517	15,687	15,664
AREA 6-St. Louis reg												
No Cost	17,408	17,150	17,268	17,408	17,499	17,587	17,557	17,691	17,769	17,626	17,707	17,809
Copay	4,112	4,209	4,276	4,331	4,375	4,536	3,999	4,127	4,177	4,305	4,428	4,342
Premium	686	660	686	718	715	752	784	784	818	870	935	894
TOTAL	22,206	22,019	22,230	22,457	22,589	22,875	22,340	22,602	22,764	22,801	23,070	23,045
STATE WIDE												
No Cost	70,241	70,693	71,174	71,513	71,860	72,253	72,174	72,414	72,320	71,314	71,376	71,651
Copay	18,573	19,103	19,453	19,744	19,920	20,249	18,199	18,699	18,935	19,062	19,329	18,849
Premium	3,097	2,992	3,008	3,100	3,098	3,030	2,874	2,982	3,201	3,354	3,544	3,588
TOTAL	91,911	92,788	93,635	94,357	94,878	95,532	93,247	94,095	94,456	93,730	94,249	94,088

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER Review period: September 1, 2004-August 31, 2005

Table IVa-2: 1115 Waiver Enrollment by Area/Region - Children

Data source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2004 – August 2005.

MEDICAID STATE WIDE												
MC+ Poverty	96,722	160,028	159,672	184,466	184,216	183,141	187,156	185,316	185,177	219,923	217,652	217,949
MAF Children	307,982	25,744	151,947	152,806	154,063	153,079	152,779	151,463	150,745	150,844	150,164	151,561
TMA Children	25,744	102,980	100,788	73,870	71,520	69,651	68,206	66,023	64,089	26,199	24,827	23,799
TOTAL	430,448	288,752	412,407	411,142	409,799	405,871	408,141	402,802	400,011	396,966	392,643	393,309
STATE WIDE												
TOTAL	433,545	291,744	415,415	414,242	412,897	408,901	411,015	405,784	403,212	400,320	396,187	396,897

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2003-August 31, 2004*

Table IVa-3: Waiver Expansion Enrollment by Area/Region - Children

Data source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2003 – August 2004 Available at: <http://www.dss.mo.gov/re/fsmsmr.htm>.

	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04
AREA 1-NW												
No Cost	6,891	6,954	6,929	6,957	6,907	6,896	6,939	6,922	6,853	6,756	6,685	6,724
Copay	1,940	1,929	1,989	2,011	2,017	2,016	1,812	1,877	1,871	1,863	1,881	1,926
Premium	279	322	314	344	342	342	303	296	323	334	326	322
TOTAL	9,110	9,205	9,232	9,312	9,266	9,254	9,054	9,095	9,047	8,953	8,892	8,972
AREA 2-NE												
No Cost	7,982	7,968	7,900	8,005	7,935	7,971	7,948	8,013	7,889	7,822	7,693	7,766
Copay	1,997	2,028	2,067	2,100	2,095	2,133	1,896	1,963	2,026	2,013	2,026	2,055
Premium	286	296	294	323	312	284	273	315	345	378	352	326
TOTAL	10,265	10,292	10,261	10,428	10,342	10,388	10,117	10,291	10,260	10,213	10,071	10,147
AREA 3-SE												
No Cost	11,081	11,160	11,157	11,201	11,126	11,210	11,099	11,095	10,850	10,673	10,590	10,599
Copay	2,861	2,860	2,812	2,802	2,815	2,809	2,468	2,636	2,717	2,724	2,755	2,802
Premium	394	398	409	443	432	438	426	485	539	578	556	547
TOTAL	14,336	14,418	14,378	14,446	14,373	14,457	13,993	14,216	14,106	13,975	13,901	13,948
AREA 4-SW												
No Cost	16,238	16,342	16,415	16,452	16,410	16,502	16,396	16,588	16,505	16,261	16,344	16,480
Copay	4,045	4,119	4,208	4,258	4,287	4,360	3,821	3,938	4,039	4,045	4,187	4,305
Premium	481	518	515	545	561	569	532	571	670	696	691	703
TOTAL	20,764	20,979	21,138	21,255	21,258	21,431	20,749	21,097	21,214	21,002	21,222	21,488
AREA 5-KC												
No Cost	11,055	11,133	11,145	11,123	11,003	11,092	11,145	11,348	11,370	11,156	11,121	11,192
Copay	2,773	2,863	2,888	2,940	2,960	3,009	2,679	2,783	2,873	2,951	2,992	3,072
Premium	411	440	438	463	462	448	426	432	499	537	537	534
TOTAL	14,239	14,436	14,471	14,526	14,425	14,549	14,250	14,563	14,742	14,644	14,650	14,798
AREA 6-St. Louis Region												
No Cost	16,159	16,403	16,576	16,739	16,819	16,903	16,715	17,112	17,300	17,180	17,027	17,003
Copay	3,555	3,680	3,753	3,814	3,857	3,888	3,465	3,615	3,802	3,867	3,916	4,022
Premium	438	516	538	589	603	587	551	604	696	725	728	713
TOTAL	20,152	20,599	20,867	21,142	21,279	21,378	20,731	21,331	21,798	21,772	21,671	21,738
STATE WIDE (In Thousands)												
No Cost	69,406	69,960	70,122	70,477	70,200	70,574	70,242	71,078	70,767	69,848	69,460	69,764
Copay	17,171	17,452	17,717	17,925	18,031	18,215	16,141	16,812	17,328	17,463	17,757	18,181
Premium	2,289	2,490	2,508	2,707	2,712	2,668	2,511	2,703	3,072	3,248	3,190	3,145
TOTAL	88,866	89,902	90,347	91,109	90,943	91,457	88,894	90,593	91,167	90,559	90,407	91,090

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2002-August 31, 2003*

Table IVa-4: Waiver Enrollment by Area/Region - Children

Data source:

Missouri Department of Social Services Family Support Division, Division of Medical Services. Monthly Management Reports for September 2002 – August 2003.

	Sep-02	Oct-02	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03
AREA 1-NW												
No Cost	8,624	8,908	8,844	8,823	9,012	9,102	9,172	9,304	9,248	9,186	9,221	9,359
Copay	2,463	2,487	2,540	2,608	2,659	2,665	2,492	2,531	2,612	2,628	2,660	2,722
Premium	430	426	447	467	426	402	382	414	417	422	414	414
TOTAL	11,517	11,821	11,831	11,898	12,097	12,169	12,046	12,249	12,277	12,236	12,295	12,495
AREA 2-NE												
No Cost	9,341	9,542	9,599	9,661	9,941	10,068	10,142	10,304	10,382	10,493	11,004	10,983
Copay	2,516	2,570	2,615	2,648	2,657	2,710	2,496	2,542	2,554	2,611	2,748	2,791
Premium	401	407	408	406	377	365	333	311	307	312	347	349
TOTAL	12,258	12,519	12,622	12,715	12,975	13,143	12,971	13,157	13,243	13,416	14,099	14,123
AREA 3-SE												
No Cost	8,448	8,641	8,661	8,696	8,808	8,924	8,935	9,004	9,013	9,038	9,146	9,171
Copay	2,383	2,393	2,402	2,423	2,442	2,484	2,318	2,361	2,391	2,400	2,390	2,377
Premium	385	386	407	373	335	328	290	260	264	278	277	300
TOTAL	11,216	11,420	11,470	11,492	11,585	11,736	11,543	11,625	11,668	11,716	11,813	11,848
AREA 4-SW												
No Cost	16,265	16,728	16,801	16,885	17,163	17,348	17,383	17,360	17,371	17,487	17,739	17,953
Copay	4,189	4,289	4,348	4,375	4,472	4,537	4,171	4,221	4,247	4,297	4,336	4,390
Premium	599	607	579	583	524	501	446	464	503	523	542	551
TOTAL	21,053	21,624	21,728	21,843	22,159	22,386	22,000	22,045	22,121	22,307	22,617	22,894
AREA 5-KC												
No Cost	7,535	7,969	8,052	8,241	8,305	8,433	8,395	8,509	8,521	8,565	8,649	8,733
Copay	1,764	1,831	1,858	1,891	1,955	2,000	1,849	1,881	1,951	1,980	2,024	2,033
Premium	287	299	292	305	310	272	249	248	271	286	282	287
TOTAL	9,586	10,099	10,202	10,437	10,570	10,705	10,493	10,638	10,743	10,831	10,955	11,053
AREA 6-St. Louis City												
No Cost	4,466	4,494	4,461	4,533	4,543	4,599	4,560	4,576	4,576	4,572	4,590	4,688
Copay	809	836	822	840	862	863	805	837	854	849	850	853
Premium	125	131	135	138	138	145	123	129	129	129	117	117
TOTAL	5,400	5,461	5,418	5,511	5,543	5,607	5,488	5,542	5,559	5,550	5,557	5,658
AREA 7-St. Louis Cnty												
No Cost	7,006	7,164	7,223	7,413	7,504	7,751	7,643	7,674	7,731	7,775	7,810	7,918
Copay	1,427	1,463	1,513	1,559	1,576	1,605	1,538	1,569	1,615	1,707	1,744	1,775
Premium	196	209	208	229	216	220	201	201	189	216	208	229
TOTAL	8,629	8,836	8,944	9,201	9,296	9,576	9,382	9,444	9,535	9,698	9,762	9,922
STATE WIDE (In Thousands)												
No Cost	61,685	63,446	63,641	64,252	65,276	66,225	66,230	66,731	66,842	67,116	64,549	65,198
Copay	15,551	15,869	16,098	16,344	16,623	16,864	15,669	15,942	16,224	16,472	15,842	16,029
Premium	2,423	2,465	2,476	2,501	2,326	2,233	2,024	2,027	208	2,166	208	2,138
TOTAL	79,659	81,780	82,215	83,097	84,225	85,322	83,923	84,700	83,274	85,754	80,599	83,365

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2005-August 31, 2006*

Table IVb: Waiver Expansion Enrollment by Area/Region - Adults

Data source: Missouri Department of Social Services, Family Support Division, Division of Medical Services. Monthly Management Reports for September 2005 – August 2006.
Available at: <http://www.dss.mo.gov/re/fsmsmr.htm>.

	Sept. 2004	Oct. 2004	Nov. 2004	Dec. 2004	Jan. 2005	Feb. 2005	Mar. 2005	Apr. 2005	May. 2005	Jun. 2005	Jul. 2005	Aug. 2005
AREA 1-Northwest												
Ext. Womens	1,185	1,197	1,261	1,282	1,306	1,347	1,411	1,438	1,491	1,510	-	-
AREA 2-Northeast												
Ext. Womens	1,389	1,435	1,470	1,485	1,543	1,570	1,612	1,676	1,697	1,737	-	-
AREA 3-Southeast												
Ext. Womens	1,452	1,516	1,598	1,670	1,705	1,755	1,807	1,837	1,910	1,947	-	-
AREA 4-Southwest												
Ext. Womens	2,838	2,919	3,063	3,190	3,174	3,253	3,365	3,444	3,532	3,650	-	-
AREA 5-Kansas City												
Ext. Womens	1,773	1,869	1,926	2,007	2,060	2,079	2,113	2,184	2,242	2,312	-	-
AREA 6-St. Louis Region												
Ext. Womens	2,244	2,306	2,392	2,511	2,604	2,635	2,679	2,741	2,831	2,902	-	-
STATE WIDE												
TOTAL	10,881	11,242	11,710	12,145	12,392	12,639	12,987	13,320	13,703	14,058	-	-

APPENDIX I: Data Request for the Evaluation of Missouri's 1115 Demonstration

Overview

Please find below a description of our data request for the 1115 evaluation. Once we confirm Steps 1 & 2, DSS and DMH can begin the necessary data extractions.

Step 1: Confirm grievance codes and active MCOs (below) with DSS (if possible by January 12, 2007)

Grievance categories:	MCOs:
11 Quality of Care	Blue Advantage Plus (BA+)
12 Timeliness of Appointments	First Guard (FG)
13 Denial of Services	Community Care Plus (CC+)
14 Other Member Medical Grievances	Family Health Partners (FHP)
21 Transportation Grievances	Mercy Health Plan (Mercy)
22 Interpreter Grievances	Missouri Care (Missouri)
23 Denial of Claims Grievances	HCUSA (HCUSA)
24 Office Waiting Grievances	
25 Office Staff Behavior Grievances	
26 Other Non Medical Grievances	
31 Quality of Care	
32 Denial of Specialist Referral	
33 Denial of Service	
34 Other Medical	
41 Transportation	
42 Interpreter Issues	
43 Denial of Claims	
44 Other Non Medical	
51 Provider Grievances with State or Plan	

Step 2: Confirm the following wrap-around/rehab codes with DMH (if possible by January 12, 2007)

CPS Wrap-Around	CPS Rehab	ADA Rehab			
025001	W1351L	451022	Y31028	Y31098	Y3116J
02500W	W13522	9450J7	Y3102J	Y3109J	Y3117
200000	W1353L	9450J8	Y3103A	Y31107	Y31177
200001	W1355L	9450Z7	Y3103J	Y31108	Y31178
200004	W1356L	9450Z8	Y31047	Y3110J	Y3117J
200005	W1369L	9451J7	Y31048	Y31118	Y9450J
200006	W1370L	9451J8	Y3104J	Y3111J	Y9450W
200007	Y13118	9451Z7	Y31077	Y31122	Y9450Z
200008	Y13119	9451Z8	Y31078	Y31147	Y9451J
200013	Y1350L	9452J7	Y3107J	Y31148	Y9451W
440021	Y1351L	9452J8	Y31087	Y3114J	Y9451Z
44000W	Y3118L	9452Z7	Y31088	Y3115J	Y9452J
490041	Y3119L	9452Z8	Y3108J	Y31167	Y9452W
Y3127H		Y31027	Y31097	Y31168	Y9452Z
Y3128H					

Step 3: Request that DSS generate for DMH a list of recipients who:

- Are under age 19
- Have 71, 72, 74, 74, or 75 eligibility codes; **and**
- Have spans of eligibility spans that start, end or crosses-over the period beginning 07/01/05 and ending to 08/31/06.

If possible, both AS&A and DMH would get these data by February 16, 2007.

File Format: Please provide the following data elements (sample data shown). Note that each span of eligibility should be on a separate line. Thus, individual clients may have multiple rows of data, each reflecting a separate span of eligibility.

DCN	First Name	Last Name	DOB	ME Code	Health Plan (if appl.)	Elig. Start Date (Mo./Yr.)	Elig. End Date (Mo./Yr.)
1111111	Jane	Doe	1/1/2001	71		6/1/2002	9/30/2005
1111111	Jane	Doe	1/1/2001	75		10/1/2005	
1111119	John	Johnson	6/5/2003	72		7/1/2003	10/31/2005
1111119	John	Johnson	6/5/2003	72		12/1/2005	10/31/2005
...							

Step 4: Generate the data requests A through D below. If possible, AS&A would get these data from DSS and DMH by March 16, 2007.

A. Grievances (Research Question #2)

Please provide an itemized list of each grievances filed against all MCOs (i.e., the health plans that provide services to 1115 Waiver enrollees) between 07/01/05 to 08/31/06. This list should also include the grievances filed against the providers that served the MCO enrollees within.

File Format: Please provide the following data elements (sample data shown)

Qtr	DCN	Service Region	Eligibility Code	Date Grievance Received	Grievance Code	Health Plan (if appl.)
1	047107950	Central	71	10/20/04	11	Mercy
...						

Please use the list of grievance codes confirmed via Step #1 above.

B. Potentially Preventable Utilization (Research Question #2)

Please provide the data in Tables 1 and 2 (included at the end of the document) for the period 07/01/05 to 08/31/06.

In addition, please provide the total number of enrollees and enrollee months, by health plan.

File Format: Please provide the following data elements (sample data shown)

Month of Service	Eligibility Code	Age	MC+ Region (E,W,C, Other)	Health Plan	Unduplicated Count	Member Months
January-04	6	2	Central	MissouriCare	100	95
January-04	6	3	Central	MissouriCare	50	40
January-04	71	18	Central	MissouriCare	150	140
...						

For reference, in previous evaluations we have obtained these statistics from Wayne Schramm, who is with the Dept. of Health and Senior Services.

C. Utilization of Preventive and Wellness Services (Research Question #2)

Population: For children under age 19 only, please provide the utilization of the following procedure codes (by region, age, and Health Plan) between 07/01/2005 and 08/31/2006:

Procedure Codes

99381-99385
99391-99395
99431-99432
99201-99205
99211-99215
90476-90748
W0025

File Format: Please provide the following data elements (sample data shown)

Month of Service	Eligibility Code	Age	MC+ Region (E,W,C, Other – if appl.)	Health Plan (if appl.)	Procedure Code	Diagnosis Code	Service Count
January-04	6	2	Central	MissouriCare	99381	V20	24
January-04	71	3	Central	MissouriCare	99382	V70.0	45

For reference, in the last evaluation cycle we obtained these statistics via Kim Carter and Mary Ellen McCleary, DSS.

D. Utilization of MH Services (Research Question #3)

For each child identified in the file extract from Step #3 above, please provide all rehab and non Medicaid wraparound services rendered through CPS or ADA between 07/01/05 to 08/31/06. Please use the list of procedure codes confirmed via Step #2 above.

DMS FFS

Unique Identifier	Date of Service	Category of Service Code	Category of Service Description	Procedure Code	Units of Service
11111111	1/1/2003	49	Psychologist	90804	3
11111111	1/1/2003	75	Physician Services	90806	1

MCO

Unique Identifier	Date of Service	Health Plan	Service Type Code	Service Type Description	Procedure Code	Units of Service
11111111	1/1/2003	MissouriCare	49	Psychologist	90804	3
11111111	1/1/2003	MissouriCare	75	Physician Services	90806	1

DMH

Unique Identifier	Date of Service	Division of Service	Procedure Code	Units of Service
11111111	1/1/2002	CPS	Y3128H	3
11111111	1/1/2002	CPS	490041	1

For reference, Joel Zemmer of DMH helped identify the list of wraparound services and has provided us with these data in the last three evaluation cycles.

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2003-August 31, 2004*

Table 1: CHIP Indicator Rates Compared with Medicaid and Non-Medicaid Regional Rates

Data source: Missouri Department of Health and Senior Services (DHSS)



		Number					Rate				
		Eastern	Central	Western	Other	State	Eastern	Central	Western	Other	State
Medicaid/MC+ Region:											
Cal. Year:											
Asthma hospitalizations age <19											
2003	CHIP/1115 Waiver	67	11	44	50	172	2.9	1.3	2.7	1.6	2.1
2003	Other Medicaid	940	129	321	567	1,957	5.3	2.7	3.1	2.8	3.7
2003	Non-Medicaid	406	63	187	172	828	1.1	0.8	1.0	0.7	0.9
2004	CHIP/1115 Waiver										
2004	Other Medicaid										
2004	Non-Medicaid										
2005	CHIP/1115 Waiver										
2005	Other Medicaid										
2005	Non-Medicaid										

Asthma ER visits age <19

2003	CHIP/1115 Waiver	418	58	289	261	1,026	18.4	6.6	17.5	8.3	12.3
2004	Other Medicaid	4,953	557	2,102	2,770	9,621	28.0	11.6	20.2	13.4	18.0
2005	Non-Medicaid	2,380	225	1,052	762	4,419	6.6	2.8	5.5	3.2	5.1
2004	CHIP/1115 Waiver										
2004	Other Medicaid										
2004	Non-Medicaid										
2005	CHIP/1115 Waiver										
2005	Other Medicaid										
2005	Non-Medicaid										

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2003-August 31, 2004*

Table 1: CHIP Indicator Rates Compared with Medicaid and Non-Medicaid Regional Rates

Data source: Missouri Department of Health and Senior Services (DHSS)



		Number					Rate				
		Eastern	Central	Western	Other	State	Eastern	Central	Western	Other	State
<i>Medicaid/MC+ Region:</i>											
ER visits age <19											
2003	CHIP/1115 Waiver	11,606	4,592	7,685	18,530	42,413	511.0	521.9	465.8	590.0	508.7
2004	Other Medicaid	122,292	36,308	64,432	152,019	375,051	691.3	754.9	618.1	737.8	700.7
2005	Non-Medicaid	95,958	20,204	53,620	61,736	231,518	265.3	253.1	281.8	256.9	265.5
2004	CHIP/1115 Waiver										
2004	Other Medicaid										
2004	Non-Medicaid										
2005	CHIP/1115 Waiver										
2005	Other Medicaid										
2005	Non-Medicaid										

Preventable hospitalizations age <19

2003	CHIP/1115 Waiver	152	58	135	310	665	6.7	6.6	8.2	9.9	8.0
2004	Other Medicaid	2,388	657	1,088	3,457	7,590	13.5	13.7	10.4	16.8	14.2
2005	Non-Medicaid	2,077	484	887	1,391	4,839	5.7	6.1	4.7	5.8	5.5
2004	CHIP/1115 Waiver										
2004	Other Medicaid										
2004	Non-Medicaid										
2005	CHIP/1115 Waiver										
2005	Other Medicaid										
2005	Non-Medicaid										

EVALUATION OF THE MISSOURI SECTION 1115 WAIVER *Review period: September 1, 2003-August 31, 2004*

Table 2: Unduplicated Members and Member Months by Payer, Region

Data source: Missouri Department of Health and Senior Services (DHSS)

Population		Unduplicated Members					Member Months				
		Eastern	Central	Western	Other	State	Eastern	Central	Western	Other	State
2003	CHIP/1115 Waiver under 19	22,712	8,799	16,497	31,406	83,374					
	Other Medicaid	176,899	48,094	104,235	206,056	535,284					
	Non-Medicaid	361,659	79,819	190,260	240,320	872,058					
2004	CHIP/1115 Waiver under 19										
	Other Medicaid										
	Non-Medicaid										
2005	CHIP/1115 Waiver under 19										
	Other Medicaid										
	Non-Medicaid										

APPENDIX I:

Data Request for the Evaluation of Missouri's 1115 Demonstration

DCN <small>(Medicaid ID)</small>	ME Code <small>(Sept. 1, 2005)*</small>	DOB	SSN	Sex	Race	ZIP <small>(Sept. 1, 2005)*</small>	Region <small>(Sept. 1, 2005)*</small>	Health Plan <small>(Sept. 1, 2005)*</small>	Discrete Number of NET Encounters								# of Discrete ER Encounters <small>(Sept 1, 2005 to Aug 31, 2006)</small>	# of Discrete Emergency Transportation Events
									Sep 2005	Oct 2005	Nov 2005	Dec 2005	Jan 2006	Feb 2006	Mar 2006	Apr 2006		

* Is the data available for the beginning of the evaluation period -- or would we have to use most recent entry (even if updated since end of evaluation period)?

Note: We are requesting these data for the following population:

1. Children with DOBs on or after 09-01-1993 (i.e., those who were 12 years old or younger during the entire 12-month evaluation period from September 1, 2005 to August 31, 2006) [1]; **AND**
2. Children who had Medicaid or MC+ eligibility for the entire 12-month period from September 1, 2005 to August 31, 2006; **AND**
3. Children who had no third-party liability (TPL) or other insurance during the evaluation period.

Of course, NEMT utilization would equal zero for MC+ enrollees.

Also, if you would, please let us know how many children from the entire population of eligibles was excluded as a result of exclusion criteria #1 - #3 above.

Mental Health and Substance Abuse Codes
(for Medicaid FFS and Managed Care)

Code	Provider Type*	Description	Modifiers
96100			
99271			
9927122			
90801–90899			
90801HO	87*	Brief Eval - Lic QMHP	CPS Rehab
90862	87*	Medication Services	CPS Rehab
90862TN	87*	Med Serv (tele)	CPS Rehab
9086252	87*	Med Serv-Prof	CPS Rehab
90862EP	87*	Med Serv-Child Psych	CPS Rehab
90862EPTN	87*	Med Serv-Child Psych (tele)	CPS Rehab
99241	87*	Physician Consult	CPS Rehab
99241TN	87*	Physician Consult (tele)	CPS Rehab
9924152	87*	Professional Consult	CPS Rehab
99241EP	87*	Physician Consult-Child Psych	CPS Rehab
99241EPTN	87*	Phys Cons-Child Psych (tele)	CPS Rehab
H0031		Intake Evaluation	CPS Rehab
H003152		Annual Evaluation	CPS Rehab
H0036		Community Support	CPS Rehab
H0037		Intensive CPR	CPS Rehab
H0038		Comm Support Assistant	CPS Rehab
H2010		Medication Administration	CPS Rehab
H2011		Crisis Intervention	CPS Rehab
H2017		PSR	CPS Rehab
J1631	87*	Haldol D - 50 mg	CPS Rehab
J2680	87*	Prolixin D - 25 mg	CPS Rehab
T1017HBHO		TCM-Adult-Masters	CPS Rehab
T1017HBHN		TCM-Adult-Bachelors	CPS Rehab
T1017HAHO		TCM-Youth-Masters	CPS Rehab
T1017HAHN		TCM-Youth-Bachelors	CPS Rehab
H0001		Alcohol and/or drug assessment	ADA Rehab
H0001		Alcohol and/or drug assessment	AM ADA Rehab
H0001		Alcohol and/or drug assessment	EP ADA Rehab
H0001		Alcohol and/or drug assessment follow-up	TS ADA Rehab
H0001		Alcohol and/or drug assessment follow-up CSW	TS AJ ADA Rehab
H0004		Behavioral health counseling and therapy	ADA Rehab
H0004		Behavioral health counseling and therapy	UK ADA Rehab
H0005		Alcohol and/or drug services; group counseling Clinician	ADA Rehab
H0005		Alcohol and/or drug services; group counseling Clinician	UK ADA Rehab
H0025		Behavioral health prevention education service	HQ ADA Rehab
H0047		Alcohol and/or drug abuse services, NOS	ADA Rehab
H0047		Alcohol and/or drug abuse services, NOS	TS ADA Rehab
H2012		Behavioral health day treatment, per hour	ADA Rehab
T1002		RN services up to 15 minutes	ADA Rehab
T1006		ADA services, family/couple counseling	ADA Rehab
T1006		ADA, family/couple counseling	U8 ADA Rehab
T1016		Case management, each 15 minutes	ADA Rehab
T2048		Behavioral health; long-term care residential, per diem.	ADA Rehab

* The CPT code should only be counted if used in combination with Provider Type 87.

Wrap-Around Services
 (for children with SED and those affected by Substance Abuse)

Code	Description	
02500H	FAMILY SUPPORT	SED WA
20000H	CASE MNGMT-BACHELOR IND	SED WA
20001H	CASE MNGMT-PARAPROFESS IND	SED WA
20003H	CASE MNGMT-PHYSICIAN IND	SED WA
20004H	CASE MNGMT-LIC QMHP IND	SED WA
20005H	CASE MNGMT-LIC PSYCH IND	SED WA
20006H	CASE MNGMT-AD PR NURSE IND	SED WA
20008H	CASE MGMT-CHILD PSYCHITRST	SED WA
39601W	WRAP-AROUND SRVCS-YOUTH IND	SED WA
39603W	WRAP-AROUND SRVCS ADULT AS	SED WA
440001	RESPIRE CARE - IND. -	SED WA
44001H	RESPIRE SRVCS	SED WA
440021	RESPIRE CARE YOUTH	SED WA
44006W	RESPIRE CARE ONE-TIME-ONLY PRESC	SED WA
58000H	Supportive Employment	SED WA
49004H	CHILD/ADOLEES FAMILY ASSIST	SED WA
Y3127K	TARGET CASE MGMT (TCM) YTH	SED WA
Y3128K	TARGET CASE MGMT (TCM) YTH	SED WA
Y3114J	INTAKE ASSESSMENT CSTAR	ADA
Y3111J	COMMUNITY SUPPORT-CSTAR	ADA
Y3110J	GROUP EDUCATION-CSTAR	ADA
Y3108J	IND CO-DEPEND COUNS-CSTAR	ADA
Y3107J	GROUP COUNSELING-CSTAR	ADA
Y3116J	OFFICE FAMILY THER CSTAR	ADA
Y3103J	DAY TREATMENT-CSTAR	ADA
Y3110K	GROUP EDUCATION	ADA
451022	ADOLEES ACADEMIC ED-CSTAR	ADA
Y3104J	INDIVIDUAL COUNS-CSTAR	ADA
Y3117J	HOME FAMILY THER CSTAR	ADA
Y3116K	OFFICE FAMILY THERAPY	ADA
Y3114L	INTAKE ASSESSMENT (GAIN)	ADA
Y3111K	COMMUNITY SUPPORT	ADA
Y3108K	IND CODEPENDENCY COUNSELING	ADA
Y3107K	GROUP COUNSELING	ADA
Y3104K	INDIVIDUAL COUNSELING	ADA
Y3103K	DAY TREATMENT	ADA
45102L	ADOL ACADEMIC ED-CSTAR	ADA
Y3117K	HOME FAMILY THERAPY	ADA
Y3114K	INTAKE ASSESSMENT	ADA

APPENDIX II:

Hospitalization and ER Utilization Rates by Payer/Program (1999-2005)

Review period: September 1, 2005-August 31, 2006

Data source: Missouri Department of Health and Senior Services (DHSS)



		Rate				
		Eastern	Central	Western	Other	State
<i>Medicaid/MC+ Region:</i>						
Cal. Year:						
Asthma hospitalizations age <19						
Benchmark = 2.25/1,000 pop.	1999 1115 Waiver Exp.	4.6	1.3	2.9	1.2	2.2
Healthy People 2000	2000 1115 Waiver Exp.	5.2	1.8	3.9	1.7	2.8
Ref. footnote in report.	2001 1115 Waiver Exp.	3.0	1.8	2.3	1.3	2.1
	2002 1115 Waiver Exp.	2.5	1.8	2.9	1.2	1.9
	2003 1115 Waiver Exp.	2.9	1.3	2.7	1.6	2.1
	2004 1115 Waiver Exp.	2.9	1.2	1.6	1.2	1.8
	2005 1115 Waiver Exp.	2.6	0.8	1.6	1.0	1.6
	1999 Non-Medicaid	1.5	1.0	1.0	0.8	1.1
	2000 Non-Medicaid	1.3	0.9	1.1	0.9	1.1
	2001 Non-Medicaid	1.1	0.7	1.0	0.7	0.9
	2002 Non-Medicaid	1.2	0.8	0.8	0.8	1.0
	2003 Non-Medicaid	1.1	0.8	1.0	0.7	0.9
	2004 Non-Medicaid	1.3	1.1	0.8	0.8	1.0
	2005 Non-Medicaid	1.3	0.6	1.0	0.8	1.0
	1999 Medicaid	7.8	3.2	4.1	2.8	4.7
	2000 Medicaid	7.6	3.4	4.5	2.6	4.6
	2001 Medicaid	4.9	2.9	3.2	2.9	3.6
	2002 Medicaid	5.3	3.2	3.6	3.0	3.9
	2003 Medicaid	5.3	2.7	3.1	2.8	3.7
	2004 Medicaid	5.0	2.3	2.5	2.7	3.4
	2005 Medicaid	4.6	2.6	3.0	2.1	3.2

Asthma ER visits age <19

Benchmark = 10/1,000 pop.

CDC NCHS Health E-Stats

Ref. footnote in report.

1999 1115 Waiver Exp.	25.1	9.3	15.2	9.3	13.4
2000 1115 Waiver Exp.	24.7	9.0	19.5	7.1	13.3
2001 1115 Waiver Exp.	17.7	5.1	13.5	7.8	11.4
2002 1115 Waiver Exp.	19.5	11.5	17.4	8.2	13.3
2003 1115 Waiver Exp.	18.4	6.6	17.5	8.3	12.3
2004 1115 Waiver Exp.	15.7	5.6	12.0	6.5	10.1
2005 1115 Waiver Exp.	18.5	6.8	11.8	7.1	11.3
1999 Non-Medicaid	8.1	3.5	6.3	3.9	6.0
2000 Non-Medicaid	7.6	3.0	6.1	3.3	5.5
2001 Non-Medicaid	6.6	3.0	6.0	3.3	5.2
2002 Non-Medicaid	6.9	2.9	6.1	3.3	5.4
2003 Non-Medicaid	6.6	2.8	5.5	3.2	5.1
2004 Non-Medicaid	6.9	3.2	5.1	3.5	5.3
2005 Non-Medicaid	6.8	3.1	4.8	2.8	5.0
1999 Medicaid	37.6	14.2	27.6	12.0	23.3
2000 Medicaid	36.2	13.2	26.2	10.0	21.7
2001 Medicaid	28.1	10.7	22.8	9.7	18.5
2002 Medicaid	31.0	11.9	22.9	10.6	19.9
2003 Medicaid	28.0	11.6	20.2	13.4	18.0
2004 Medicaid	25.0	9.9	17.6	8.9	16.0
2005 Medicaid	26.5	11.1	17.8	8.8	16.6

APPENDIX II:

Hospitalization and ER Utilization Rates by Payer/Program (1999-2005)

Review period: September 1, 2005-August 31, 2006

Data source: Missouri Department of Health and Senior Services (DHSS)



		Rate				
		Eastern	Central	Western	Other	State
Medicaid/MC+ Region:						
Cal. Year:						
ER visits age <19						
Benchmark = 400/1,000 pop.	1999 1115 Waiver Exp.	465.2	440.7	424.1	534.0	490.1
Health, United States, 2005. CDC	2000 1115 Waiver Exp.	367.6	393.4	388.4	546.3	463.4
Ref. footnote in report.	2001 1115 Waiver Exp.	490.1	497.3	471.6	531.9	506.1
	2002 1115 Waiver Exp.	525.9	496.8	467.8	517.9	508.1
	2003 1115 Waiver Exp.	511.0	521.9	465.8	590.0	508.7
	2004 1115 Waiver Exp.	403.2	467.2	381.3	453.2	426.2
	2005 1115 Waiver Exp.	436.3	467.8	390.7	459.8	439.8
	1999 Non-Medicaid	265.5	239.7	275.1	339.6	287.1
	2000 Non-Medicaid	262.1	218.6	269.9	256.6	257.9
	2001 Non-Medicaid	256.6	244.9	296.3	259.9	265.0
	2002 Non-Medicaid	263.4	251.4	284.4	255.6	264.7
	2003 Non-Medicaid	265.3	253.1	281.8	256.9	265.5
	2004 Non-Medicaid	244.6	271.4	268.5	274.2	260.4
	2005 Non-Medicaid	243.9	442.7	248.1	258.4	251.0
	1999 Medicaid	658.5	697.2	668.9	789.6	717.3
	2000 Medicaid	713.6	681.7	637.0	656.8	676.0
	2001 Medicaid	642.4	704.4	628.4	709.9	671.0
	2002 Medicaid	674.9	710.0	581.7	708.6	673.2
	2003 Medicaid	691.3	754.9	618.1	737.8	700.7
	2004 Medicaid	596.3	700.9	557.1	654.1	620.5
	2005 Medicaid	602.1	765.1	570.7	688.0	662.5

Preventable hospitalizations age <19

Benchmark = 7.2/1,000 pop.

Kozak, Hall and Owings.

Ref. footnote in report.

1999 1115 Waiver Exp.	9.0	4.8	7.4	8.1	7.8
2000 1115 Waiver Exp.	10.5	8.0	9.5	9.8	9.7
2001 1115 Waiver Exp.	9.9	8.8	6.7	10.5	9.4
2002 1115 Waiver Exp.	6.8	9.2	8.9	10.0	8.9
2003 1115 Waiver Exp.	6.7	6.6	8.2	9.9	8.0
2004 1115 Waiver Exp.	7.0	7.0	6.9	8.8	7.7
2005 1115 Waiver Exp.	7.5	6.4	6.2	8.4	7.5
1999 Non-Medicaid	4.3	3.5	3.6	4.4	4.1
2000 Non-Medicaid	5.5	4.9	4.9	5.7	5.4
2001 Non-Medicaid	6.0	5.6	5.0	6.1	5.8
2002 Non-Medicaid	5.9	6.4	5.1	6.2	5.9
2003 Non-Medicaid	5.7	6.1	4.7	5.8	5.5
2004 Non-Medicaid	6.1	6.3	4.7	6.2	5.8
2005 Non-Medicaid	6.5	7.0	4.9	6.5	6.2
1999 Medicaid	14.4	11.1	10.7	13.1	12.9
2000 Medicaid	17.8	15.0	13.5	16.6	16.3
2001 Medicaid	14.9	15.0	12.1	19.3	16.1
2002 Medicaid	13.7	14.8	12.0	18.2	15.2
2003 Medicaid	13.5	13.7	10.4	16.8	14.2
2004 Medicaid	12.8	12.5	10.6	16.1	14.0
2005 Medicaid	13.3	14.5	11.3	17.0	14.5

APPENDIX III:

DMH-DSS Wrap-Around Service Codes and Titles

Review period: September 1, 2005-August 31, 2006

Wrap-Around Services (for children with SED and those affected by Substance Abuse)		
02500H	FAMILY SUPPORT	SED WA
20000H	CASE MNGMT-BACHELOR IND	SED WA
20001H	CASE MNGMT-PARAPROFESS IND	SED WA
20003H	CASE MNGMT-PHYSICIAN IND	SED WA
20004H	CASE MNGMT-LIC QMHP IND	SED WA
20005H	CASE MNGMT-LIC PSYCH IND	SED WA
20006H	CASE MNGMT-AD PR NURSE IND	SED WA
20008H	CASE MGMT-CHILD PSYCHITRST	SED WA
39601W	WRAP-AROUND SRVCS-YOUTH IND	SED WA
39603W	WRAP-AROUND SRVCS ADULT AS	SED WA
440001	RESPITE CARE - IND	SED WA
44001H	RESPITE SRVCS	SED WA
440021	RESPITE CARE YOUTH	SED WA
44006W	RESPITE CARE ONE-TIME-ONLY PRESC	SED WA
58000H	Supportive Employment	SED WA
49004H	CHILD/ADOLEES FAMILY ASSIST	SED WA
Y3127K	TARGET CASE MGMT (TCM) YTH	SED WA
Y3128K	TARGET CASE MGMT (TCM) YTH	SED WA

SED WA = SED Wrap-Around Service

APPENDIX IV: NEMT Interview Questions

Missouri 1115 Evaluation
March 29, 2007

Providers

1. *For Office Manager or other front-line staff member:* Are you able to clearly distinguish between those patients with **MEDICAID** and patients in the MC+ expansion program (i.e., those in ME Codes 71, 72, 73, 74, and 75)?

YES No

Note: If answer is "No," then replace "MEDICAID" below with "MEDICAID/MC+"

2. Based on the information that **MEDICAID** patients have shared with you, what are the common barriers in setting up appointments with them? [*Read all choices to respondent.*]

How often is this issue the reason?

a. Getting a timely appointment	Don't Know	Rarely	Sometimes	Often
b. Finding a convenient appointment time	Don't Know	Rarely	Sometimes	Often
c. Finding someone to take care of kids or other family members	Don't Know	Rarely	Sometimes	Often
d. Getting time off work	Don't Know	Rarely	Sometimes	Often
e. Getting transportation to and from the appointments	Don't Know	Rarely	Sometimes	Often
f. None of the above; other: _____	Don't Know	Rarely	Sometimes	Often

3. [*If answer to #1 is YES:*]

Would the answers above be the same or different for the MC+ expansion population? How so?

4. In the last week, what proportion of **MEDICAID** patients missed appointments or canceled less than a day before?

Hardly Any (<10%) Some (10-25%) Many (25-50%) Most (> 50%)

Is this about average?

5. *[If answer to #1 is YES:]*

Are children on the MC+ expansion program more likely or less likely to miss appointments (or cancel less than a day before) compared to those in Medicaid?

6. Based on the information that **MEDICAID** patients have shared with you, what are the more common causes or reasons for missing appointments (or canceling less than a day before)? *[Read all choices to respondent.]*

How often is this issue the reason?

a. Being fearful or anxious	Don't Know	Rarely	Sometimes	Often
b. Decided later to cancel the appt b/c symptoms gone	Don't Know	Rarely	Sometimes	Often
c. Forgot the date or time of the appointment	Don't Know	Rarely	Sometimes	Often
d. Had to take care of other kids or other family members	Don't Know	Rarely	Sometimes	Often
e. Unable to get time off work	Don't Know	Rarely	Sometimes	Often
f. Unable to get transportation to and from the appointments	Don't Know	Rarely	Sometimes	Often
g. Arrived too late too be seen	Don't Know	Rarely	Sometimes	Often
h. None of the above; other: _____	Don't Know	Rarely	Sometimes	Often

7. [If answer to #1 is YES:]

Are the reasons for children in the MC+ expansion largely the same or different in some way? How?

8. Based on your recent experience, what proportion of **MEDICAID** patients are aware that Medicaid pays for transportation to and from medical appointments?

Hardly Any (<10%)

Some (10-25%)

Many (25-50%)

Most (> 50%)

9. In the last week, how many times were you able to help **MEDICAID** patients organize NEMT rides?

10. Based on your conversations with patients, do **MEDICAID** patients who need transportation rely on the Medicaid NEMT services? Why or why not?

Medicaid Enrollees

Sex: _____ Are you working now? YES No

Age: _____ Number of children under age 21 living with you: _____

ZIP: _____ Health plan _____

1. Do your children have a doctor or health care provider? YES No
2. In the last year, how many times have your children been to the doctor? _____
3. Do you sometimes put off going or taking your children to the doctor? YES No
4. What are the biggest challenges in setting up doctor's appointments? [*Read all choices to respondent.*]

How often is this issue the reason?

a. Getting a timely appointment	Unknown	Rarely	Sometimes	Often
b. Finding a convenient appointment time	Unknown	Rarely	Sometimes	Often
c. Finding someone to take care of kids or other family members	Unknown	Rarely	Sometimes	Often
d. Getting time off work	Unknown	Rarely	Sometimes	Often
e. Getting transportation to and from the appointments	Unknown	Rarely	Sometimes	Often
f. None of the above; other: _____	Unknown	Rarely	Sometimes	Often

5. What are the some of more difficult things about getting to the doctor's office? *[Read all choices to respondent.]*

How often is this issue the reason?

a. Your child is afraid or anxious	Don't Know	Rarely	Sometimes	Often
b. Didn't remember the exact date or time of the appointment	Don't Know	Rarely	Sometimes	Often
c. Had to take care of other kids or other family members	Don't Know	Rarely	Sometimes	Often
d. Unable to get time off work	Don't Know	Rarely	Sometimes	Often
e. Unable to get transportation to and from the appointments	Don't Know	Rarely	Sometimes	Often
f. None of the above; other: _____	Don't Know	Rarely	Sometimes	Often

6. In the last year, have you or your child missed or canceled a doctor's appointment because you couldn't get a ride there or back home?

YES No

7. Would you choose a different provider for your child if you could get a ride there?

YES No

8. If you found out today that your child had an appointment in the next month with a new doctor (one in your same town or county), do you think that you could get there on your own or with help from a friend or relative?

YES No

9. A lot of people don't know this, but Medicaid pays for transportation to the doctor. Did you know that Medicaid pays for this?

YES No

10. Have you or has your child ever used the transportation service that Medicaid offers?

YES No

11. Did this work out okay? Was it reliable?

YES No

12. How much of a difference did this service make to you? Would you be able to get there anyway?

13. Would you or your child be more likely to go if you could get a ride from Medicaid? How much of a difference would this make to you?

MC+ Expansion Enrollees

Sex: _____ Are you working now? YES No

Age: _____ Number of children under age 19 living with you: _____

ZIP: _____ Health plan _____

- 1. Do your children have a doctor or health care provider? YES No
- 2. In the last year, how many times have your children been to the doctor? _____
- 3. Do you sometimes put off going or taking your children to the doctor? YES No
- 4. What are the biggest challenges in *setting up* doctor's appointments? [*Read all choices to respondent.*]

How often is this issue the reason?

a. Getting a timely appointment	Don't Know	Rarely	Sometimes	Often
b. Finding a convenient appointment time	Don't Know	Rarely	Sometimes	Often
c. Finding someone to take care of kids or other family members	Don't Know	Rarely	Sometimes	Often
d. Getting time off work	Don't Know	Rarely	Sometimes	Often
e. Getting transportation to and from the appointments	Don't Know	Rarely	Sometimes	Often
f. None of the above; other: _____	Don't Know	Rarely	Sometimes	Often

5. What is the hardest thing about getting to the doctor's office? [*Read all choices to respondent.*]

	<i>Less of a Challenge</i>	<i>More of a Challenge</i>		
a. Your children are afraid or anxious	Don't Know	Rarely	Sometimes	Often
b. Didn't remember the exact date or time of the appointment	Don't Know	Rarely	Sometimes	Often
c. Had to take care of other kids or other family members	Don't Know	Rarely	Sometimes	Often
d. Unable to get time off work	Don't Know	Rarely	Sometimes	Often
e. Unable to get transportation to and from the appointments	Don't Know	Rarely	Sometimes	Often
f. None of the above; other: _____	Don't Know	Rarely	Sometimes	Often

6. In the last year, have you or your child missed or canceled a doctor's appointment because you couldn't get a ride there or back home?

YES No

7. Would you choose a different provider for your child if you could get a ride there?

YES No

8. Would you or your children be more likely to go if you could get a ride from MC+? How much of a difference would this make to you?

9. If you found out today that one of your children had an appointment in the next month with a new doctor (one in your same town or county), do you think that you could get there on your own or with help from a friend or relative?

YES No